DOCUMENT RESUME

ED 347 612 EA 020 997

TITLE Safety Implications of the Kentucky Schoolbus Crash. Hearing before the Subcommittee on Transportation, Tourism, and Hazardous Materials of the Committee on Energy and Commerce. House of Representatives, One Hundredth Congress, Second Session.

INSTITUTION Congress of the U.S., Washington, DC. House Committee on Energy and Commerce.

PUB DATE 10 Aug 88

NOTE 74p.; Serial No. 100-219.

PUB TYPE Legal/Legislative/Regulatory Materials (090)

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS *Accident Prevention; *Bus Transportation; *Driving While Intoxicated; Elementary Secondary Education; Government Publications; Hazardous Materials; Hearings; Safety; *School Buses; Student Transportation; Tourism; *Traffic Accidents

IDENTIFIERS *Kentucky

ABSTRACT

This publication is a collection of the statements made in a hearing before the Subcommittee on Transportation, Tourism, and Hazardous Materials of the Committee on Energy and Commerce of the House of Representatives. In particular, the topic was the safety implications of a Kentucky school bus crash on May 14, 1984. Discussed are the issues of school bus safety and alcohol-impaired driving. (SI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

EA

SAFETY IMPLICATIONS OF THE KENTUCKY SCHOOLBUS CRASH

ED347612

HEARING

BEFORE THE

SUBCOMMITTEE ON
TRANSPORTATION, TOURISM, AND HAZARDOUS MATERIALS

OF THE

COMMITTEE ON ENERGY AND COMMERCE HOUSE OF REPRESENTATIVES

ONE HUNDREDTH CONGRESS

SECOND SESSION

AUGUST 10, 1988

Serial No. 100-219

Printed for the use of the Committee on Energy and Commerce

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

U.S. GOVERNMENT PRINTING OFFICE
94-561 WASHINGTON : 1989

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

EA 020 997

BEST COPY AVAILABLE

COMMITTEE ON ENERGY AND COMMERCE

JOHN D. DINGELL, Michigan, *Chairman*

JAMES H. SCHEUER, New York
HENRY A. WAXMAN, California
PHILIP R. SHARP, Indiana
JAMES J. FLORIO, New Jersey
EDWARD J. MARKEY, Massachusetts
THOMAS A. LUKEN, Ohio
DOUG WALGREN, Pennsylvania
AL SWIFT, Washington
MICKEY LELAND, Texas
CARDISS COLLINS, Illinois
MIKE SYNAR, Oklahoma
W.J. "BILLY" TAUZIN, Louisiana
RON WYDEN, Oregon
RALPH M. HALL, Texas
DENNIS E. ECKART, Ohio
WAYNE DOWDY, Mississippi
BILL RICHARDSON, New Mexico
JIM SLATTERY, Kansas
GERRY SIKORSKI, Minnesota
JOHN BRYANT, Texas
JIM BATES, California
RICK BOUCHER, Virginia
JIM COOPER, Tennessee
TERRY L. BRUCE, Illinois

NORMAN F. LENT, New York
EDWARD R. MADIGAN, Illinois
CARLOS J. MOORHEAD, California
MATTHEW J. RINALDO, New Jersey
WILLIAM E. DANNEMEYER, California
BOB WHITTAKER, Kansas
THOMAS J. TAUKE, Iowa
DON RITTER, Pennsylvania
DAN COATS, Indiana
THOMAS J. BLILEY, JR., Virginia
JACK FIELDS, Texas
MICHAEL G. OXLEY, Ohio
HOWARD C. NIELSON, Utah
MICHAEL BILIRAKIS, Florida
DAN SCHAEFER, Colorado
JOE BARTON, Texas
SONNY CALLAHAN, Alabama

WM. MICHAEL KITZMILLER, *Staff Director*
PAUL C. SMITH, *Minority Chief Counsel/Staff Director*

SUBCOMMITTEE ON TRANSPORTATION, TOURISM, AND HAZARDOUS MATERIALS

THOMAS A. LUKEN, Ohio, *Chairman*

JAMES J. FLORIO, New Jersey
W.J. "BILLY" TAUZIN, Louisiana
JIM SLATTERY, Kansas
GERRY SIKORSKI, Minnesota
JIM BATES, California
RICK BOUCHER, Virginia
JIM COOPER, Tennessee
JOHN D. DINGELL, Michigan
(Ex Officio)

BOB WHITTAKER, Kansas
THOMAS J. TAUKE, Iowa
MICHAEL BILIRAKIS, Florida
DAN SCHAEFER, Colorado
SONNY CALLAHAN, Alabama
NORMAN F. LENT, New York
(Ex Officio)

LAWRENCE E. SABBATH, *Staff Director*
BENJAMIN COHEN, *Counsel*
WILLIAM R. HARKER, *Legislative Assistant*
ROBERT ALAN BERGMAN, *Minority Counsel*

CONTENTS

Testimony of: Page

Blair, R. Greg, president, Guardian Technologies, Inc 31

Hitchcock, Ralph, Director, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration 41

Nichols, C. Phillip, Jr., Judge, Prince Georges County, MD 30

Nunnallee, James and Karolyn, Radcliff, KY 22

Parker, George, Associate Administrator for Enforcement, National Highway Traffic Safety Administration 41

Sadoff, Micky, vice president, Mothers Against Drunk Driving 20

Sarkos, Gus, fire safety branch, Federal Aviation Administration Technical Center 11

Snell, Jack E., Director, Center for Fire Research, National Bureau of Standards 4

Steed, Diane, Administrator, National Highway Traffic Safety Administration 41

Wood, Roger W., Jr., manager, safety branch, Washington Metropolitan Area Transit Authority 11

SAFETY IMPLICATIONS OF THE KENTUCKY SCHOOLBUS CRASH

WEDNESDAY, AUGUST 10, 1988

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON TRANSPORTATION,
TOURISM, AND HAZARDOUS MATERIALS,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:18 a.m., in room 2261, Rayburn House Office Building, Hon. Thomas A. Luken (chairman) presiding.

Mr. LUKEN. This session of the Transportation Subcommittee will come to order. In today's hearing, we have the melancholy task of examining the recent schoolbus crash in Kentucky and what it means with reference to Federal legislation, and Federal regulation. Those are terms that have no particular rhetorical value. To put it another way, I think this is a solemn occasion, because it's our business as legislators with the jurisdiction that we have here, to prevent deaths on the highways insofar as we can.

In this case, where there were 27 deaths; the question is, were any of those deaths unnecessary and if even one death was unnecessary, then we have a particular burden and so do the Federal agencies and the other agencies that are involved. The basic facts about this crash are not in dispute. On May 14 of this year, a pickup truck hit the schoolbus. The driver of the truck had been convicted of drunk driving in 1984 and according to police reports, at the time of the accident, had a blood alcohol content more than twice the level of drunk driving in Kentucky. The level of drunk driving test in Kentucky is a rather lax one in the first place.

The fuel tank of the schoolbus was punctured by a piece of metal from one of the bus' leaf springs and gasoline leaked onto the ground. The gasoline caught fire near the front of the bus. The fire in the crash blocked the front door of the bus and so the occupants had to try to exit through the rear emergency door or windows.

The fire spread through the bus and 27 people died from smoke inhalation. Dr. Merritt Birkey, a toxicologist for the NTSB, the National Transportation Safety Board, told the hearing last week in Louisville, that the fire would not have developed as rapidly or as quickly, if the bus had not had combustible seat materials.

There's also no dispute about the basic facts concerning the lack of attention that the agency involved here, the National Highway Traffic Safety Administration, has given to schoolbus safety in general and flammability of schoolbus seats in particular.

In 1974, Congress found that NHTSA, which is responsible for vehicle safety, had given a low priority to schoolbus safety and directed NTSB to promulgate safety standards for schoolbuses. NHTSA has never issued a specific standard for flammability in schoolbus seats. Instead, it relies on a flammability standard for all vehicles that it initially issued in 1971, and last revised in 1975.

Meanwhile, other Federal safety agencies, not acting in closet or other dark places, but very much in public, such as the Federal Aviation Administration, have issued more stringent flammability standards and the question is whether if NHTSA had issued such flammability standards and those standards had been enforced, whether all of the deaths that occurred here, would have, in fact, happened.

In January 1980, a NHTSA consultant told NHTSA that its flammability standard, "* * * does not guarantee a satisfactory design against fire hazard * * *" and reminded NHTSA that in 1975, the NTSB had recommended that NHTSA adopt a standard similar to the one used by the FAA, a more stringent one. We want to learn whether NHTSA's failure to react to its own consultant's report is linked to the fact that during the last 8 years, NHTSA's size, its capacity to operate, has shrunk by about 27 percent.

We intend in this hearing to find out what actions NHTSA plans to take to upgrade its safety standards for schoolbuses in the light of what has happened here. We want to find out when those actions will be implemented and when they will be finished. We also what to know what NHTSA is doing about drunk driving. Section 408 of the Highway Safety Act of 1966 is designed to have NHTSA help the States reduce traffic accidents stemming from drunk driving.

We want to know why NHTSA is not doing more to ensure the use of ignition interlock devices which prevent a person who has been drinking alcohol from starting the automobile. We understand that this is a difficult hearing for many of the witnesses and we appreciate their willingness to come forward and to testify at this particular trying time for them. I think we need that information. The public needs that information too, because we do operate in that public sphere, so that our responsibility can also be tested as well as we can test the responsibility and the implementation of these laws that we pass that is carried out by the agencies that are involved.

That is a very general outline of what we are going to be about this morning and I'd like now to call upon the gentleman from Kansas, Mr. Robert Whittaker, for any opening statement that he may have.

Mr. WHITTAKER. Thank you, Mr. Chairman, and good morning, Mr. Chairman and witnesses. We're meeting this morning to consider the safety implications of a very tragic accident that occurred on May 14 of this year, when a drunk driver crossed the median strip of an interstate highway and ended up hitting a schoolbus headon, causing the deaths of 27 people.

This particular driver had previously been convicted of driving under the influence and at the time of the accident, had a blood alcohol level of 2.5 times the legal limit. He clearly had no business

being on the road in the condition that he was in. This man has recently been indicted on 27 counts of murder.

While these charges may seem harsh, they seem to me to be appropriate to the crime committed and I hope they send a message to all drivers. The main issue that we have got to grapple with is, how do you prevent drunk driving? If this drunk driver had not been on the road, 27 deaths and 34 injuries would not have occurred. I'd like to ask the Administrator of NHTSA and the other witnesses here today, what has been accomplished on both the Federal level and on State level and local level as far as reducing the deaths and injuries caused by persons driving under the influence of alcohol or drugs.

The accident does raise other issues, particularly related to smoke standards for buses. All of the deaths in this particular accident were caused by smoke inhalation and while the evidence is not all in, it does appear that the flammability of the seat cushions and the covers may have contributed to the spread of the fire and the smoke within the bus.

I know that in recent years, the Federal Aviation Administration has adopted stricter standards for material flammability in the interiors of airplanes and that similar standards apply to mass transit rail vehicles. I believe that we'll also hear testimony this morning that the Metro officials in the Washington area have voluntarily adopted the same high standards for buses in their Metro fleet.

My question then is why haven't the higher standards been required by NHTSA for all buses? If there are good reasons why higher standards have not been adopted before, do those reasons still hold now after the Kentucky accident. I realize that the investigation by the National Transportation Safety Board of this accident is still in the early stages and that we won't learn all of the answers here today. I look forward to the information that we are going to receive so that we can begin to put the pieces together on this tragic accident.

Thank you, Mr. Chairman.

Mr. LUKEN. Thank you, Mr. Whittaker. If there's nothing else of a preliminary matter, we will proceed with the hearing and the witnesses. We will first ask the panel consisting of Mr. Gus Sarkos, manager, fire safety branch of FAA; Dr. Jack Snell, Center for Fire Research, the director of the center; and Mr. Roger Wood, manager of the safety branch, Washington Metro; to come forward.

Perhaps we could start off with Dr. Snell, who is the Director of the Center for Fire Research of the National Bureau of Standards. Dr. Snell? I believe we have your testimony and without objection, it will be admitted into the record and you may proceed any way you see fit to summarize it or to read it or whatever—any way you think will be helpful, Dr. Snell.

STATEMENTS OF JACK E. SNELL, DIRECTOR, CENTER FOR FIRE RESEARCH, NATIONAL BUREAU OF STANDARDS; ROGER W. WOOD, JR., MANAGER, SAFETY BRANCH, WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY; AND GUS SARKOS, MANAGER, FIRE SAFETY BRANCH, FEDERAL AVIATION ADMINISTRATION TECHNICAL CENTER

Mr. SNELL. Thank you, Mr. Chairman. My name is Jack Snell. I'm Director of the Center for Fire Research in the National Bureau of Standards. The central point of my remarks is that fire safety inevitably involves tradeoffs—tradeoffs between function, costs and safety.

Our business is to provide the scientifically based knowledge of fire and measurement tools needed to quantify fire safety performance and thus assist others, those with regulatory and other responsibilities, in making these difficult decisions. Let me give you first a brief overview of NBS and the Center for Fire Research and then directly respond to the questions that you have posed to us in your letter.

The National Bureau of Standards is a scientific and engineering research laboratory with no regulatory authority. We promulgate no standards. Our output is measurement methods and the scientific and technical basis for advancing technology. The Center for Fire Research has been in existence since 1974, although the Bureau has been doing fire related work since its founding shortly after the turn of the century.

The focus of our work since the Fire Prevention and Control Act of 1974, has been to provide the understanding of fire sufficient to bring this often overlooked area to the same knowledge and predictive capabilities already enjoyed in all other areas of engineering. Since 1974, we think we've made significant progress. We understand better the role of basic fire performance parameters of products and materials—that is, ignitability, flame spread, heat release rate, smoke generation rate and toxic potency, much better than we did before; how to measure these parameters.

We've even developed scientifically based computer models to predict fire growth and hazard development in buildings and other facilities. We work through voluntary consensus standards organizations and other agencies of government at all levels, to transfer and disseminate this technical information.

Now, in response to your questions: In 1975, we undertook a fire test on a Metro bus for the Washington Metropolitan Area Transit Administration, in which context, MVSS-302 was performed along with fullscale tests. It was found that materials that passed the MVSS-302, could be ignited by various ignition sources, including matches, a combinations of paper and lighter fluid and that fullscale performance was not predicted by the small scale test. Similar tests were carried out on mockup of a metrorail car in December 1975. Again, the small scale test did not predict fullscale performance.

In summary, the measurement methods and test methods are one part of the problem of addressing fire safety of products and materials. Another part of that is setting the levels of performance under these tests. It's in setting the levels that many of the diffi-

cult tradeoff issues that the regulatory agencies face, must be included.

The quantitative predictive tools that I've just described, have been demonstrated to be useful in the process of quantifying fire hazard and in setting such performance levels. Thank you, sir.

[The prepared statement of Mr. Snell follows:]

U.S. DEPARTMENT OF COMMERCE
GAITHERSBURG, MD 20899

STATEMENT OF

JACK E. SNELL, DIRECTOR
CENTER FOR FIRE RESEARCH
NATIONAL ENGINEERING LABORATORY
NATIONAL BUREAU OF STANDARDS

BEFORE THE

HOUSE COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON TRANSPORTATION, TOURISM, AND HAZARDOUS MATERIALS
ON THE SAFETY IMPLICATIONS OF THE RECENT SCHOOL BUS CRASH IN KENTUCKY

AUGUST 10, 1988

Mr. Chairman, my name is Jack Snell. I am the Director of the Center for Fire Research of the National Bureau of Standards. I appreciate the opportunity to appear before this Committee today to discuss the safety implications of the recent school bus crash in Carrollton, Kentucky.

The National Bureau of Standards (NBS) performs research to develop a wide range of measurement methods and the context for their use. These measurement methods may be, and in many cases are, adopted by regulating agencies at the Federal, state, or local level. They also are often adopted by voluntary standards organizations. However, since NBS is itself not a regulatory agency, we do not promulgate regulations, mandate standards, inspect or test for compliance, or enforce standards.

The NBS Center for Fire Research (CFR) is a research organization for advancing fire science and developing fire test methods. CFR is now combining these into the emerging capability of predicting the hazards of unwanted fires. In addition to advancing fire science, CFR has worked, on a reimbursable basis, with many Federal agencies to apply that knowledge to public concerns and National issues, e.g.,

- vehicular fire safety (for the Washington, D.C. Metropolitan Area Transit Authority [1,2], and the Urban Mass Transportation Administration [3], the Federal Railway Administration [4], and the Federal Aviation Administration [5,6], all of the Department of Transportation);

- smoke detector sensitivity and location (in conjunction with the General Services Administration, the Consumer Product Safety Commission, and the Veterans Administration);

- children's sleepwear (in conjunction with the Consumer Product Safety Commission);

- "nuclear winter" (for the Defense Nuclear Agency);

- ship survivability for the Navy; and

- oil well fires (for the Department of the Interior).

BEST COPY AVAILABLE

In each of these cases, we have found that there are many considerations to the problem of concern - fire is but one of those. CFR develops a full understanding of the flammability hazards and risk, conducts the needed full-scale tests and supporting research, develops the appropriate measurement methods and data, and makes recommendations on fire safety to the agency in authority.

Our newly-developed, prototype computer program for hazard analysis, HAZARD I [7], enhances our ability to consider simultaneously the effects of:

- the compartment in which the fire is occurring;
- the ignitability, burning, and smoke production of the materials involved;
- the behavior of people present; and to a limited extent
- fire detection or suppression methods.

This detailed analysis allows the responsible agency to weigh quantitatively the effects of any decisions it might take.

Over the years, CFR has performed significant research on fire safety of the interiors of public transportation vehicles: airplanes, trains, rapid rail, and buses. Our reports have evaluated both materials and test methods in use at those times. For example, our long-standing technical support of the Federal Aviation Administration has reinforced their approach to improved fire safety:

- full-scale tests;
- analysis;

- supportive research; and
- impact and feasibility assessment.

The principle product of fires is heat. Therefore, most of the past advances in fire safety have involved reducing ignitions and keeping the fires small. A variety of test methods for the amount and rate of heat buildup have been developed. Our most recent analysis of the fire safety of bus interior materials was in 1978. New materials and products have become available since then which offer significantly improved fire safety performance.

While producing heat, all fires also produce combustion gases and visible smoke particles. In general, the amount and harm potential of these depends on:

- the nature of the material burning;
- the amount of material burning;
- the availability of air to the fire; and
- the number and state of people near the fire.

Calculations using HAZARD I show that for a variety of fires, the heat and toxicity in a room reach life-threatening levels at about the same time. Some exceptions arise when the smoke is unusually black or toxic. Again, a hazard analysis of the specific fire situation, coupled with selective laboratory measurements, would identify the most suitable ways to measure the smoke and suggest what materials performance criteria would alleviate any potential disaster. This type of analysis is particularly critical in cases such as the Carrollton, Kentucky bus crash, where a major source of harm (gasoline) might overpower any reasonable fire performance criteria imposed on the materials for use in the bus interior.

Specifically, the quality of current standards for bus interior fire safety can not be addressed in an isolated manner. Fire risk depends on both the likelihoods of the particular types of fires (e.g., children playing with matches, arson, ignition by a fuel spill following an accident) and the consequences of such events. The measures (e.g., standards for ignitability, flame spread, smoke obscuration, and smoke toxicity) taken to reduce that risk must also depend on these two factors. Thus, the current standard MVSS 302 may be appropriate for the consequences of the first of these scenarios, but may not be a sufficient safeguard against the consequences of the others. For the latter cases, one must be sure that the needed precautions are not so severe that the only compliant materials would fail some other critical specification, such as crash protection. At the same time, the likelihood of injury or death resulting from fuel spill ignition might be extremely small, which might play a role in a decision to implement stricter materials test standards.

The Center for Fire Research has the capability to bring the state-of-the-art in fire science, test methods, and materials to bear in a comprehensive fire hazard analysis of any situation such as this and to support the agency having jurisdiction. In the past, we have worked with the Department of Transportation to assess the potential consequences of well-defined fire scenarios of concern to them and have helped them develop appropriate test methods for the relevant fire parameters.

I appreciate the opportunity to present this material to you today.

Mr. LUKEN. Thank you, Dr. Snell. Next, we'll ask Mr. Gus Sarkos, who is manager of the fire safety branch of the FAA; will you proceed in any way you see fit for approximately 5 minutes.

STATEMENT OF GUS SARKOS

Mr. SARKOS. Thank you, Mr. Chairman. I am manager of fire safety branch at the FAA Technical Center and the fire safety branch manages and conducts the FAA's aircraft systems fire safety program.

This program deals with fire safety in the interior of commercial transports and addresses such issues as testing of interior materials, fire management and suppression and evacuation and survival. FAA has had an ongoing program in fire safety for many years. About 8 to 10 years ago, the activity under this program was enhanced to a great degree. New facilities were built, additional manpower was added to the program and higher levels of funding were provided also.

This increased activity has resulted in a number of important products and information from that program that has allowed the FAA in recent years to set new fire safety standards for transport aircraft; including, for example, new, more stringent test requirements for seat cushions as well as interior panel materials.

I'd just like to say a few words about fire technology. In my opinion, it is a highly empirical field. That is to say, much of the knowledge base is experimental. It is very difficult—I would say impossible—to predict with a reasonable degree of certainty, the development of a real fire inside an enclosure furnished with typical materials. We have found that the best way to obtain this information is to conduct fullscale fire tests.

The backbone of our new regulations has been fullscale fire tests. I might also comment that my background is in aircraft fires and fire safety and that the information that I have about this tragic bus accident which is the subject of this hearing, is very general. I will try to answer any questions that you have related to the fire safety aspects of this accident, relying on my experience in aircraft fire safety, but will try to qualify my remarks, obviously, whenever appropriate. Thank you.

Mr. LUKEN. Mr. Roger Wood of the Washington Area Metropolitan Transit Authority.

STATEMENT OF ROGER W. WOOD, JR.

Mr. WOOD. Good morning, Mr. Chairman. Thank you for inviting me here today to discuss the subcommittee's concerns regarding the flammability characteristics of nonmetallic materials used in present day schoolbuses.

My experience in material flammability, their requirements and applications, dates back to my project management experience on the space program. Much of the technology that we learned on the space program has, to some degree, transgressed into the transit industry and that stands for both modern day buses as well as rail transit vehicles.

As you are aware, the National Highway Traffic Safety Administration presently imposes flammability requirements through their

MVS-302 standard for schoolbuses. I've reviewed that standard and in my opinion, it does not sufficiently identify all of the characteristics necessary for assuring that reasonable flammability requirements are imposed on the schoolbus manufacturer.

Mr. LUKEN. Does that mean it's inadequate?

Mr. WOOD. Yes, sir.

Mr. LUKEN. That will make it a little simpler for some of us.

Mr. WOOD. Although MVS-302 does address the basic requirement for flammability and flame propagation, it doesn't specify any of the requirements for ignition, the rate of heat rise, smoke release and smoke density. The Urban Mass Transit Administration has established recommended practices for the testing of materials in rail transit vehicles and is now presently promulgating those same tests and requirements for transit buses.

These tests are well established and widely accepted by the transit industry today. As previously stated by these two gentlemen, these tests are fullscale tests. Specifically, seat cushions, shrouds, seat frames, upholstery, arm rests, wall and ceiling panels, door panels, windscreen windows and the list goes on, including insulation, cabling, floor coverings—all are included in these test requirements and specifications.

For your convenience, I have attached a table which identifies these tests. I might say, most of these materials used in transit buses today and rail transit vehicles meeting these standards, are commercially available. For example, one manufacturer does provide seats for rail transit buses as well as rail transit vehicles. These requirements are presently specified for transit buses and rail transit vehicles and I would recommend that the underrecommended practices similarly be considered as applications for guidelines in the schoolbus industry.

Mr. Chairman, that concludes my formal testimony. I'll be pleased to answer any of your questions.

[The table follows:]

TABLE I

COMPONENT	UMTA RECOMMENDED	PASS CRITERIA	COMMENT
Seat Cushions	ASTM D-3675 ASTM E-662	$I_s \leq 25$ $D_s \leq 100$ at 1.5' $D_s \leq 200$ at 4'	Test for flaming or non flaming depending on most smoke
Shroud	ASTM E-162 ASTM E-662	$I_s \leq 35$ $D_s \leq 100$ at 1.5' $D_s \leq 200$ at 4'	
Seat Frame	Same as Shroud	Same as Shroud	
Upholstery	FAR 25 853	Vertical Flame Time 10 sec. Burn Length 6 inches	
	ASTM E-662	$D_s \leq 100$ at 4' uncoated $D_s \leq 250$ at 4' coated	
Arm Rests	Tested as cushions	Same as cushions	
Wall and Ceiling Panels	ASTM E-162 ASTM E-662	$I_s \leq 35$ $D_s \leq 100$ at 1.5' $D_s \leq 200$ at 4'	
Door Panels	Same as Wall and Ceiling Panels	Same	
Windscreens	ASTM E-162 ASTM E-662	$I_s \leq 35$ $D_s \leq$ at 1.5' $D_s \leq$ at 4'	
Windows	ASTM E-162 ASTM E-662	$I_s \leq 100$ $D_s \leq 100$ at 1.5' $D_s \leq 200$ at 4'	
HVAC Ducting	ASTM E-162 ASTM E-662	$I_s \leq 35$ $D_s \leq 100$ at 1.5' $D_s \leq 200$ at 4'	
Thermal and Acoustical Insulation	ASTM E-162 ASTM E-662	$I_s \leq 25$ $D_s \leq 100$ at 1.5'	
	ASTM E-119	Pass	Time calculation required not less than 15 minutes
Floor Covering	ASTM E-648	CRF $\geq$ 0.5 w/CM^2	
Electomers	ASTM C-542-7/A	Pass; No flaming or dripping	
Electrical Insulation	IEEE 383	$D_s \leq 50$ at 4'	

I_s - Flame Spread Index
D_s - Smoke Density

94-561 O - 89 - 2

BEST COPY AVAILABLE

Mr. LUKEN. Let us first set the stage. You have testified rather conservatively because of your limited knowledge of the event and because of some of the uncertainties around such matters as this. Let's try to get to what we can determine and what expert opinions in the areas of probabilities would reveal for us, what we should be doing if we are directing ourselves to doing what is possible and what is the logical and reasonable thing to do.

This particular accident was clearly a terrifying accident with two vehicles moving the opposite direction and each vehicle's front right side crashed into the other as the pickup truck continued, its forward momentum spinning to the side of the bus. The fuel tank of the bus was pushed back some 24 to 26 inches. The front suspension of the bus broke loose, allowing one of the leaf springs to bounce up and down the highway as the bus continued its forward momentum and spinning gyrations.

Evidently, as one of the leaf springs was bouncing underneath the bus, it punctured the fuel tank, allowing gasoline to spill onto the highway, but not into the bus. At the same time, due to the crash, the structure of the front right side of the bus was crushed so that the steps of the front door were distorted and the front door was torn from the bus.

The leaf spring not only punctured the fuel tank, but was sending off sparks as it bounced along the highway. These sparks ignited the gasoline underneath the bus. The flames then found their way into the interior of the bus through the hole in the area of the front seat. An analysis of the crash site indicates that the amount of gas spilled from the puncture was limited to a small area and no gasoline penetrated the bus interior, but that the flames penetrated into the passenger compartment from just below the distorted stairwell.

The evidence suggests that the fire inside the bus was fed primarily by the seat materials, floormats and the content. Now, the question is, given that explanation of events which I'm sure you've heard before—but just to make sure we're operating from basically the same factual statement, actual context—in your judgment as fire and safety specialists; would the consequences of this crash have been as bad, if, say, the FAA standards had been in effect for that bus and had been followed and if materials such as neoprene been used as the basic fabric, rather than polyurethane? Mr. Sarkos.

Mr. SARKOS. It is the opinion of the National Transportation Safety Board who are investigating this accident, that the seat cushions were a primary factor in the development of that fire. Then if seat cushions had been present in that bus that met the FAA standards, there would have been an improvement. The fire would not have developed as quickly.

Mr. LUKEN. When we say improvement; what happens with polyurethane in such a situation as this where the flames are introduced into the interior? Does that combustibility with polyurethane—is that a quick combustibility? What happens within the interior?

Mr. SARKOS. Do you want me to answer that?

Mr. LUKEN. Yes.

Mr. SARKOS. Polyurethane is——

Mr. LUKEN. If polyurethane was the material in the upholstery of the bus, Dr. Snell; what happens in such a situation?

Mr. SNELL. If we assume it's a nonfire retardant polyurethane and some of the improved materials that are available today, were not, as I understand, it available at that time; they have a rather high rate of heat release. They produce significant amounts of smoke and other combustion products.

Mr. LUKEN. With a moment or two.

Mr. SNELL. Within a very short period of time. The tests that we ran, for example, on the Metrobus seats, using a quarter of a liter of lighter fluid, led to rapid involvement of the seat and a reduction of visibility within the bus to essentially nil within a matter of minutes.

Mr. LUKEN. This is with the old polyurethane materials; is that right?

Mr. SNELL. That is correct.

Mr. LUKEN. Mr. Wood, do you want to amplify on that? You've conducted some tests, have you not?

Mr. WOOD. Yes, sir, as a result of that, generally speaking the whole transit industry has modified their requirements and uses what's referred to generically as a low smoke neoprene material in all seat cushions in both buses and rail transit vehicles as of today. The results of those tests that were performed by the NTSB, directly related to the promulgation of that material for use in buses and transit vehicles to reduce that hazard.

Mr. LUKEN. So if this material within the bus in the instant case, had been the upgraded materials that you've just described that the transit industry has today; if that had been in effect and had been followed in the construction of this bus or an upgrading of this bus, the results would not have been as drastic as they were?

Mr. WOOD. I believe that's true, yes. That would definitely be true because they don't emit the rate of smoke or the rate of heat release or smoke density that the urethane did.

Mr. LUKEN. FAA and National Bureau of Standards have tested the flammability of materials setting fire to airplanes and buses; is that right, Mr. Wood?

Mr. WOOD. Yes, sir, all seat cushion material uses the FAA standard.

Mr. LUKEN. You use three tests to determine flammability; is that right? Vertical test, seat cushion test and heat radiance tests?

Mr. WOOD. Yes, sir.

Mr. LUKEN. In 1975, the National Bureau of Standards performed the fire tests in Washington Metrobuses. This was requested by Metro, right?

Mr. WOOD. Yes, sir.

Mr. LUKEN. As I understand it, that showed with 1 or 2 minutes after the foam padding catches fire within a bus, a situation like this—within 1 or 2 minutes, visibility is nil; is that what happened?

Mr. WOOD. Yes, sir.

Mr. LUKEN. So it is within a minute or two, that the tragic effects take place; that the occupants are put in mortal peril within a minute or two after this situation occurs? Visibility is cut down and the place is filled with smoke?

Mr. WOOD. Yes.

Mr. LUKEN. So they have to get out of there in a hurry or the results occur which occurred right here if they are unable to get out.

Mr. WOOD. Yes, sir.

Mr. LUKEN. What are Washington Metro standards with reference to such upholstery and other interior materials?

Mr. WOOD. With respect to buses and it's not just Washington Metro; it's all mass transit systems procuring buses over the past 10 to 12 years, use now the low-smoke neoprene as seat cushion material. They also use other materials which have a greater degree of resistance against flammability in their liners as well. That's the interior liners of the buses which were also a source of problems earlier.

Mr. LUKEN. Just to repeat and put this in a proper framework, I'll ask all of you; the bus involved in the crash had passenger seats made of polyurethane—the old polyurethane. It's true that polyurethane burns more quickly and produces more smoke than the other materials which are now used and you've described just now?

Mr. WOOD. Yes, sir.

Mr. LUKEN. Any other comment. Do you gentleman agree?

Mr. SNELL. Yes, that's correct.

Mr. LUKEN. Have you found that it's possible to construct passenger seats from materials which slow the spread of fire and smoke, Dr. Snell?

Mr. SNELL. We don't construct them but we've tested them.

Mr. LUKEN. You say it's possible to do so?

Mr. SNELL. Absolutely.

Mr. LUKEN. Absolutely?

Mr. SNELL. Yes, sir.

Mr. LUKEN. Mr. Wood, you buy such materials today, is that right?

Mr. WOOD. Yes, sir.

Mr. LUKEN. You wouldn't buy any today with the old polyurethane, would you?

Mr. WOOD. No, sir.

Mr. LUKEN. Who sets these standards for the transit industry today?

Mr. WOOD. The Urban Mass Transit Administration did in the case of the bus specification. As soon as what's referred to as their advanced design specification and in the case of the rail transit vehicles, it's their recommended practices for flammability.

Mr. LUKEN. Now, let's talk about practicality. The neoprene that you've described as being more fire retardant and less combustible; wouldn't happen in a minute or two such as that this bus would be filled with smoke, cutting down visibility and putting these noxious fumes into the air. This neoprene which is available, is one of the more popular and effective materials used today; is it not?

Mr. WOOD. Yes, it is.

Mr. LUKEN. Is that the way you understand it?

Mr. SNELL. Is it available commercially? Yes, sir.

Mr. LUKEN. Mr. Sarkos, is it available?

Mr. SARKOS. Yes, sir, it is available.

Mr. LUKEN. As a practical matter, there are other materials in addition to neoprene which could do also an effective job in retarding combustibility and the smoke resultant; is that right?

Mr. SARKOS. Yes, sir.

Mr. LUKEN. But neoprene is the most popular. In other words, it is available because it is practical. Is that right, Mr. Wood?

Mr. WOOD. Yes, sir, and it is reasonable in cost.

Mr. LUKEN. What I am getting at is we are not talking about something that is theoretically available; we are talking about something that is actually available on the market at a reasonable cost. Is that right?

Mr. WOOD. Yes, sir.

Mr. LUKEN. Mr. Sarkos, does the FAA ever perform tests for other government agencies?

Mr. SARKOS. We performed tests a number of years ago for UMTA. We acted as a test lab under an interagency agreement with UMTA when they were developing their flammability guidelines. There was a gentleman at the Transportation System Center that was developing the guidelines for UMTA. Also, in the mid-1970's, we ran tests for UMTA when they were considering an advanced rapid transit vehicle that would be elevated, and we did some testing to look at the fire safety design of that particular vehicle concept.

Mr. LUKEN. Do you have an answer to that, Dr. Snell?

Mr. SNELL. Yes, sir. Approximately one-third to a half of our work is performed for other Federal agencies and agencies of government. We have done vehicle-related tests for the Air Mass Transit Administration, the Washington, DC Metropolitan Transit Administration, the Urban Mass Transit Administration, and FAA, for instance.

Mr. LUKEN. Dr. Snell or Mr. Sarkos, has the National Highway Traffic Safety Administration ever asked the FAA or NBS to test the flammability of a schoolbus equipment?

Mr. SARKOS. Not to my knowledge.

Mr. SNELL. Not that I am aware of.

Mr. LUKEN. If asked, you would be willing to conduct such tests? You have the capacity to do so?

Mr. SNELL. Yes, sir.

Mr. LUKEN. I mean you have the capability of doing so. I am not asking about the management decision, but you have the capability; is that right?

Mr. SNELL. Yes, sir.

Mr. LUKEN. And would that be a reasonable cost to conduct such tests?

Mr. SNELL. Yes, sir.

Mr. LUKEN. I understand in the neighborhood of $100,000?

Mr. SNELL. I think it depends, sir. A single bus test to include measurements of the sort related to the issue in question could be conducted for on the order of $40,000. A more complete analysis involving multiple test and alternative materials would cost more, and the analytical work to evaluate different levels of performance for this sponsor would extend the cost beyond that. So it really depends on the nature of the work.

Mr. LUKEN. As I understand what you have told us, it is that the NHTSA standard is not an adequate standard and test method for determining the flammability of materials used in schoolbuses; is that right? In your opinion.

Mr. SNELL. As measurement lab, it is not our business to say what a standard should be; it is to provide the standard setter with the information they need in answering that question. That involves risk factors, including the kinds of ignition, the probable ignition sources, the relative likelihood of occurrence, and the consequences of each of those alternatives.

Mr. LUKEN. Mr. Sarkos, you said it is an empirical investigation that you have to go into to make the determination there. You have to set fire to the bus; is that right?

Mr. SARKOS. Or airplane cabin, whatever the situation may be. That is right.

Mr. LUKEN. And you are nodding your head affirmatively, Mr. Wood. Is that right?

Mr. WOOD. Yes. We, in fact, did that through the NBS.

Mr. LUKEN. So what is your comment on the NHTSA standard as to its adequacy at the present time?

Mr. WOOD. As stated in my testimony, I think it could be improved substantially.

Mr. LUKEN. It is nowhere near the standard of the transit industry generally.

Mr. WOOD. No, sir.

Mr. LUKEN. Mr. Wood, you stated it is your view that mass transit systems have found it in their and their passengers' best interests to require their vehicles, both buses and subway cars, to meet a higher standard?

Mr. WOOD. Yes, sir.

Mr. LUKEN. All right. I think the final question, Mr. Wood, is: Some people might object to our requiring that schoolbuses meet a higher flammability standard by saying that materials such as neoprene or other fire blocking agents cannot also meet the NHTSA standard for crash protection. Do you have any comment on that?

Mr. WOOD. We meet those standards. We meet the NBS 222 standard.

Mr. LUKEN. So there isn't any tradeoff, as far as you are concerned.

Mr. WOOD. No, sir.

Mr. LUKEN. I thank you very much.

The gentleman from Kansas.

Mr. WHITTAKER. Thank you, Mr. Chairman.

Mr. Snell, the Administrator of NHTSA States in her written testimony that there is a tradeoff among the properties of impact resistance, fire resistance, and the production of toxic gases. Do you agree with this view, and do you believe that there is a feasible method for improving the flammability standard for schoolbus seats while maintaining the impact resistance needs?

Mr. SNELL. I have no reason to dispute that statement, Mr. Whittaker. Yes, there are tradeoffs. Most of our work focuses on the residential fire problem, where thousands of people die annually. We could make homes in which people would not die, but they would be made of concrete and the like, and it would not be a particularly

desirable or even habitable environment. So, at the extreme, there are tradeoffs? Can the current standards be improved? Yes, sir.

Mr. WHITTAKER. Mr. Snell, you also refer in your written testimony to cases like the Kentucky crash where a major source of harm—you are referring to gasoline in this case—might overpower any reasonable fire protection criteria imposed on the materials for the use in bus interiors. Are you saying essentially that there are some fires that are so severe that no material will slow them down?

Mr. SNELL. That is a very extreme statement, but certainly that is true. If you have a significant spill of fuel directly into the interior of the vehicle, for example, the relative contribution of the flammable contents, no matter what their retardancy, may be insignificant and occur at a time at which the occupants are already dead.

Mr. WHITTAKER. Would any of the witnesses that are familiar with the case we are looking into here today make a prediction on how much extra time the passengers might have had in this Kentucky crash had fire-blocking material been used in those seats?

Mr. SARKOS. I think my earlier comments indicated that it would be impossible to make such a prediction without recreating the accident in terms of all the important factors such as the amount of fuel, the location of the fuel fire, the opening in the bus, the predominant draft conditions, and then testing both situations with and without fire block materials or neoprene foam, what have you, improved seat cushions, to determine what that incremental improvement would be. I don't think it can be predicted without running realistic fullscale fire tests duplicating as closely as possible the accident which occurred.

Mr. WHITTAKER. And you don't feel comfortable even making a general prediction or a guesstimate, if you would? Would it be 30 seconds, 5 seconds, 5 minutes?

Mr. SARKOS. Not in terms of the general information that I have available with regard to the accident itself. For example, the effect of the gasoline fire, as Dr. Snell was talking about, could be very dominant. I have heard some statements that when the back door was opened, it created a draft that drew the fire into the bus. We have run similar tests with aircraft fuselages and have shown when an external fuel fire can dominate survivability irrespective of the materials which are present.

In our testing, we try to focus on fire scenarios where the materials are the prime factors affecting survivability, design toward that particular threat, and that is the basis for our standards. There are conceivable accidents where a fuel fire might be dominant. I have no way of knowing whether this was the case in the church bus accident in Kentucky.

Mr. WHITTAKER. Thank you, Mr. Chairman.

Mr. LUKEN. Thank you.

I think your testimony has been very helpful, very complete, and we appreciate it. I think this is an extremely important matter, not only the accident itself, but what the fallout will be, what the result will be. I think your testimony has helped all of us along. If we don't do the right thing, it won't be because you haven't given us the necessary foundation.

Thank you.

On the next panel we will have Mr. Greg Blair, president of Guardian Technologies; Phil Nichols, Prince Georges County, Judge Phil Nichols; James and Karolyn Nunnallee; and Ms. Micky Sadoff of Mothers Against Drunk Driving.

For the benefit of this panel, especially those who are not used to the rigors of Capitol Hill testimony, what we will do is ask for Ms. Sadoff first, and then Mr. and Mrs. Nunnallee to give their testimony. We have all of your written testimony, which we appreciate your submitting, so you may proceed, all of you, in any way that you see fit, and I hope that we can make it as comfortable as possible for you in this difficult time.

So just proceed in any way that you think will be helpful and tell us anything that you think is at all relevant, bears in any way, as you see it, on the incident and the subject that we have described that we are investigating.

First Ms. Sadoff, and then the Nunnallees.

Ms. Sadoff, you represent MADD, Mothers Against Drunk Driving. We have your testimony, and you may proceed.

STATEMENTS OF MICKY SADOFF, VICE PRESIDENT, MOTHERS AGAINST DRUNK DRIVING; JAMES AND KAROLYN NUNNALLEE, RADCLIFF, KY; C. PHILLIP NICHOLS, JR., JUDGE, PRINCE GEORGES COUNTY, MD; AND R. GREG BLAIR, PRESIDENT, GUARDIAN TECHNOLOGIES, INC.

Ms. SADOFF. Thank you. Mr. Chairman, I am Micky Sadoff, national vice president of Mothers Against Drunk Driving, a 1,100,000-member organization. My goal today is to spell out the course that MADD is currently taking to bring an end to drunk driving tragedies in this country.

I have been asked by the staff of this committee to testify on several concerns in light of the Kentucky crash, including the use of ignition interlock. As you may know, the mission of MADD is basically twofold: to provide aid, comfort and understanding to those who have been victimized by DWI crime, and to promote more responsible attitudes, behavior and public policy relating to drinking and driving.

The problem of drunk driving was highlighted last week as the National Transportation Safety Board opened a hearing into the worst single drunk driving incident, the Kentucky bus crash in May. The conclusion of the National Transportation Safety Board will undoubtedly take into account factors such as the design and the condition of the bus itself. However, as MADD pointed out last Tuesday in a noon press conference at the hearing, the single most relevant factor in that crash was not the condition of the bus but the condition of the driver who smashed into it. It was drunken driving at its worst, with 27 fatalities and many injuries, yet we know that the equivalent, more than two such busloads of people, die each day in alcohol-related crashes and average 65 deaths per day and thousands injured.

MADD responded to the Kentucky crash at the request of the National Organization for Victim Assistance and the Kentucky attorney general by sending a team of victim assistance specialists to aid in mobilizing community resources to help the victims' families

cope with the tragedy. Last weekend another group, made of MADD members who had themselves been badly burned or had lost children in DWI crashes, went to Kentucky and counseled with the grieving families. These actions epitomized the strong commitment MADD maintains to those who have suffered the needless tragedy of alcohol-related crashes.

MADD recognizes that no single approach can be successful in combating drunk driving. A campaign against DWI must be staged on many fronts. To accomplish this, MADD engages in a wide variety of educational, public awareness and prevention programs. However, legislation remains a key component of this effort. While much has been accomplished, many States still lack some of the most effective DWI countermeasures such as administrative license revocation or the need to close loopholes in existing statutes.

We want to continue to make gains against DWI rather than simply remain stationery or even lose ground. To address this goal, MADD has developed an intensified impaired driving issues agenda with efforts on both the Federal and State level. Over the past year, MADD's Legislative and Public Policy Committee worked with a task force of experts in traffic safety and enforcement to prioritize countermeasures and sanctions most important to the reduction of alcohol-related fatalities and injuries.

The committee and task force developed a volume of resources designed to educate grassroots activists about seven priority countermeasures and to aid them in getting these measures implemented at the State level. This resource compendium includes our top legislative priority, administrative license revocation, along with sobriety checkpoints, self-sufficient DWI programs, a legal standard for intoxication of 0.08 percent, mandatory testing in fatal, serious injury crashes, preliminary breath tests and license plate impoundment or confiscation.

With this impaired driving issues compendium completed, MADD has undertaken a series of 10 impaired driving workshops around the country to place these resources into the hands of activists who can put the tools to good use. Our first workshop, just completed in Baton Rouge, LA, found activists enthusiastic and eager for the help this compendium will provide.

Our national legislative agenda includes S. 2549 and H.R. 4723, which would offer incentive grants to States passing several DWI measures, the most important of which is administrative revocation. This countermeasure has a proven track record in reducing driver involvement in fatal crashes and can save even more lives if the remaining 28 States would adopt it.

The bill also encourages establishment of self-sufficient DWI programs funded by DWI fines and fees, and would add supplemental funds for States mandating driver testing in all fatal or serious injury crashes or implementing program for effective enforcement of the 21-year-old minimum drinking age adopted by all States pursuant to congressional action in 1984.

S. 2549 is moving in the Senate, and we would like to see House action on behalf of administrative revocation in particular. The House amendment by Representative Byron Dorgan and Tim Johnson of South Dakota would add a valuable countermeasure to the

omnibus drug bill and would provide support to this most needed effort against impaired driving.

It is our hope that today the House Rules Committee will recommend a rule making an administrative revocation amendment in order. Should the amendment to the omnibus bill be offered, we hope it would have the strong support of the subcommittee.

With regards to ignition interlock, we are not yet prepared to endorse it. More independent research and evaluation are needed, and the technology should not be viewed as a substitute for something as important as administrative revocation or other license sanctions. As a victim of a drunk driving crash, I appreciate this opportunity to address this subcommittee about the issue of drunk driving, which could impact as many as two out of every five individuals at some time during their lives.

Your concern and interest on this issue can contribute a vital component in the effort to put an end to drunk driving tragedies in this country. Thank you.

Mr. LUKEN. Thank you, Ms. Sadoff.

Another problem about testifying here is not only the buzzers but the interruptions. Those buzzers mean that we are called to the floor of the House for a vote, but it will be a momentary interruption. We will recess for 10 minutes and be right back. Thank you.

[Brief recess.]

Mr. LUKEN. The subcommittee will reconvene, and now Mr. and Mrs. Nunnallee, you may proceed, whichever or both.

STATEMENT OF KAROLYN V. AND JAMES B. NUNNALLEE

Mrs. NUNNALLEE. On May 14, 24 children and three adults were killed in a fiery bush crash in Carrollton, KY. Of the surviving 40 children, 17 were burned and all lost their childhood innocence. Our daughter Patty was the youngest child on that bus, and she died.

It is difficult to appreciate the difficulty of the pain and suffering that occurs in this type of tragedy until it happens to you. The pain and suffering did not end when the flames died down. Numerous children were severely burned, and even one lost her leg to the burns. She and several others will live the rest of their lives with horrifying, disfiguring scars.

The pain still does not end there. Patty's grandparents are still grieving daily for their precious granddaughter that they will never see again. Our surviving daughter, Jean, is beginning to show psychological problems which will certainly require professional psychiatric help. She says that life is no fun anymore without her sister to play with. She has been talking about wanting to die so that she can be with her sister again.

Mr. NUNNALLEE. We can assure you that the violent death of a child is no minor crisis. It severely affects more than just the immediate family. It has far-reaching and long-term effects that you can't begin to imagine.

Our efforts to address the two major causative factors in this tragedy, drunk driving and schoolbus safety, have brought us before this distinguished panel of public servants. We are not asking for help; we are begging. These two issues are essentially

unrelated, and we have made no attempt to prioritize them. Therefore, we will address them separately.

Mrs. NUNNALLEE. It is a fact that drunk driving is the leading cause of death for young people in this country. It is also a fact that drunk drivers kill approximately 24,000 people in this country each year, and that figure does not include the thousands that are severely injured, burned and permanently disfigured.

To put this into a more meaningful perspective, drunk drivers fill the equivalent of the Vietnam Memorial Wall every 2 years. Why we continue to treat drunk driving as a minor offense is still a mystery. Drunk driving is a major killer in this country, and most offenders still receive only very minor punishment.

On the surface, it would appear that the drunk driving problem is a matter for the States to solve. However, it is obvious the States are not solving the problem. It is time that the Federal Government took a stance on this very serious problem. The Federal Government has the resources and the capability to not only assist the States but to force the States to do something about the drunk driving menace. Enough is enough. We need your help.

Mr. DUNNALLEE. The Carrollton bus crash obviously started with an alleged drunk driver. However, when the bus came to rest, no one had received anything more than minor scrapes. All the deaths and injuries were the result of the very rapidly ensuing fire from the ruptured fuel tank. For years we have all been lulled into a false sense of security about the safety of schoolbuses. We continually hear about how safe schoolbuses are compared to cars.

We don't dispute the fact that schoolbuses have a lower accident rate than cars. What we do dispute is the relevance of that fact. Using that same rationale, one could argue that we needn't worry about airline crashes. The absurdity of that concept is obvious.

Furthermore, there is one key difference between schoolbuses and all other forms of transportation, whether they be public or private. The children who ride schoolbuses don't have a choice, and even if they did, they are not capable of making an intelligent choice. If an adult thinks that one airline is unsafe, he can choose another. If he thinks the Suzuki Samurai is unsafe, he can buy some other type of car. Children riding schoolbuses don't have that option, and neither do their parents.

The equipment to make our schoolbuses safer is not sophisticated, nor is it expensive. Furthermore, the need for these measures has been common knowledge for decades. From its very beginning in 1967, the NTSB and other industry agencies repeatedly recommended that buses contain at least four emergency exits. Virtually the exact same story can be told concerning the flammability of seat cushions.

For some unknown reason, the National Highway Traffic Safety Administration has only seen fit to mandate these improvements on commercial buses but not schoolbuses. Right now most of the schoolbuses rolling off the production line even today have only one emergency exit and have seats made with unprotected polyurethane.

NHTSA has historically and even now continues to view schoolbus accidents as episodic events. Do we need further dramatic evidence to prove to NHTSA that changes are necessary? We are not

talking about expensive high technology equipment; we are talking about things as simple as a $70 pushout window. We think that is reasonable insurance for this country's future leaders.

Mrs. NUNNALLEE. There is nothing unique or complicated about the solutions to either the drunk driving or the schoolbus safety issue. The solutions are relatively simple and have been common knowledge for years. What we need is the resolve and the leadership to make them happen.

We strongly urge you to act on these matters and stop the senseless slaughter that is occurring every day on our public highways. We sincerely hope that you never have to experience first hand the pain and suffering that we are being forced to endure.

Thank you.

[The prepared statement and attachment of Mr. and Mrs. Nunnallee follow:]

STATEMENT BEFORE THE HOUSE SUBCOMMITTEE ON
TRANSPORTATION, TOURISM, AND HAZARDOUS MATERIALS

James B. & Karolyn V. Nunnallee
August 10,1988

On May 14, 1988 our 10 year-old daughter, Patty, died in the bus crash that occurred near Carrollton, Kentucky. The bus was hit head-on by an "allegedly" drunk driver who was driving in the wrong direction on Interstate 71. It is difficult to appreciate the severity of the pain and suffering that occurs in this type of tragedy until you become personally involved in one. We were, quite obviously, very personally involved in this tragedy. Certainly all children are precious and valuable. But this bus carried a particularly precious cargo. Our daughter was not the only child on that bus who was a straight A student. This bus carried the cream of the crop from our community.

Once the initial shock wore off, we began our efforts to address the two major factors involved in this tragedy; drunk driving and school bus safety. The two issues are essentially unrelated and to attempt to connect or prioritize them is senseless. Therefore, we will address them seperately.

Drunk Driving

It is a fact that drunk driving is the leading cause of death for young people in this country. It is also a fact that drunk drivers kill approximately 24,000 people in this country each year and that figure does not include the thousands who are seriously injured, burned and permanently disfigured. Why we continue to treat drunk driving as a "minor" offense is a mystery that we will never understand. Drunk driving is a major killer in this country and most offenders still receive only very minor punishment.

The national office of Mothers Against Drunk Driving came to Louisville

BEST COPY AVAILABLE

recently to launch a new nationwide campaign against drunk driving. Karolyn was one of the key speakers (copy of speech attached) at the news conference where they announced their/our seven point plan to combat drunk driving. This plan includes:

- Administrative license revocation. In more than half of the states, the license is not taken until after a person is convicted of the charge, a process that often takes months. Even after conviction, many offenders do not lose their license.
- A legal limit of .08 blood-alcohol content. Most states use a .10 level. Furthermore, the states should consider this level as evidence of intoxication, as opposed to just being considered a presumption of intoxication, as it is in many states.
- Confiscation of license plates of habitual drunken drivers to keep them from driving on revoked operator's licenses.
- Mandatory alcohol or drug testing in all fatal or serious-injury accidents.
- Equipment for preliminary breath testing so police can check a driver's alcohol level without having to arrest him and administer a Breathalyzer test. These portable units are already being used in some locations.
- Offender-funded drunken driving programs.
- Sobriety checkpoints to monitor roads for drunken drivers.

On the surface it would appear that the drunk driving problem is a matter for the states to solve. However, it is obvious that the states are not solving the problem. It is time that the federal government took a stance on this very serious problem. The federal government has the resources and the capability to not only assist the states but to force the states to do something about the drunk driving menace. Enough is enough! We need help.

School Bus Safety

The Carrollton bus crash obviously started with an "allegedly" drunk driver. However, when the bus came to rest, no one had received anything more than minor scrapes. All the deaths and injuries were the result of the very rapidly ensuing fire from the ruptured fuel tank on the bus.

For years we have all been lulled into a false sense of security about the safety of school buses. We continually hear about how safe school buses are compared to cars. Throughout the recent National Transportation Safety Board (NTSB) hearings, we heard repeated references to the fact that school buses have a considerably lower death per road-mile rate than cars and that we must be doing a good job on bus safety. We don't dispute the fact that school buses have a lower accident rate than cars. What we do dispute is the relevance of that fact. Using that very same rationale, one could argue that since the accident rate for the airline industry is much lower than it is for cars, we can forget about trying to improve our airline accident rate. Obviously no one would support that idea.

Furthermore, there is one key difference between school buses and all other forms of transportation, whether they be public or private. The children who ride school buses don't have a choice, and even if they did, they are not capable of making an intelligent choice. If an adult thinks that one airline is unsafe, he can choose another. If he thinks that the Suzuki Samurai is unsafe, he can buy some other type of car. Children riding school buses don't have that option, and neither do their parents. Following a 1970 bus accident, the NTSB found a "unique need for protection of innocent children who ride school buses, and who are almost totally unable to assure their safety by their own actions.

May 14th was not the first time that children have died in a school bus and, unfortunately, it probably won't be the last. The equipment to make our school buses safer is not sophisticated nor is it expensive. Furthermore, the need for these measures has been common knowledge for decades. From its very beginning in 1967, the NTSB has repeatedly recommended that buses contain at least four emergency exits. Other organizations such as the Society of Automotive Engineers, the School Bus Manufacturers Institute, and the Center for Auto Safety have echoed the NTSB recommendations. Virtually the exact same story can be told concerning the flammability of seat cushions. For some unknown reason, the National Highway Traffic Safety Administration (NHTSA) has only seen fit to mandate these improvements on commercial buses, not school buses. Right now, most of the school buses rolling off the production lines have only one emergency exit and have seats made with unprotected polyurethane.

The NHTSA has historically, and even now continues to view school bus accidents as episodic events. We expected NHTSA to show up at the NTSB hearings for the Carrollton bus crash with their "hats in their hands." Not so. Mr. Ralph Hitchcock (NHTSA Vehicle Safety Standards) continually stressed what a good job that NHTSA has done on school bus safety standards. He made a major production over stressing how many more children are killed each year in cars versus school buses and how millions of children are moved safely each year on school buses. After the unanimous and repeated recommendations for more stringent standards, NHTSA's resistance to change is nothing short of amazing. Do we need further dramatic evidence to prove to NHTSA that changes are necessary? We are not talking about expensive, high technology equipment. We're talking about things as simple as a $70 push-out window. We think that's reasonable insurance for this country's future leaders.

There is nothing unique or complicated about the solutions to the drunk driving or the school bus safety issue. The solutions are relatively simple and have been common knowledge for years. What we need is the resolve and the leadership to make them happen!

Speech made at the National MADD News Conference
by Karolyn V. Nunnallee
Aug 2, 1988

On May 14 our lives were changed forever. A man driving north in a south-bound lane of traffic hit a school bus returning from a fun-filled day at an amusement park. The man later registered a .24 blood alcohol level - over twice the amount allowed by Kentucky law. Within seconds, the bus carrying 63 children and 4 adults errupted in a burst of fire - in minutes a holocaust occurred and 27 people burned to death. Of the remaining 40 people, some suffered physical burns, from minor to the extreme, and all suffered mental anguish, the extent of which we may never know.

Our daughter, Patty, was the youngest child on that bus and she died. All of this was a result of an adult who made a wrong choice, he chose to drive a lethal weapon, drunk, and as a result our lives will never be the same. How long will we sit back? How many more people must be killed by drunk drivers before something is done about drunk driving?

This tragedy has opened the world's eyes to what results from one person driving drunk. What about the thousands who do it every day? A recent Bluegrass State Poll revealed that drug and alcohol abuse, including drunk driving, is the #1 concern of Louisville area residents. Yes, drinking is socially acceptable, liquor companies are a booming business, bars are making money. But does this excuse people from not taking responsibility for their own actions - or from friends not doing it for them? How many more must die?

Driving is a privilege and if you chose to break the law by driving drunk then you should lose that privilege. If stiffer penalties are enacted and enforced, hopefully these senseless deaths will stop. For 14 years my husband and I have had a designated driver agreement and it works. We respect the law and we respect the lives and safety of others. Mandatory punishment with no exceptions would deter the drunk driver.

Automatic suspension of driving privileges and mandatory jail time for first time offenders may sound harsh to you. What sounds even harsher to me is knowing that my daughter died in the most terrifying, painful, and gruesome way imaginable - and it all started and ended with a drunk driver.....a repeat offender drunk driver. Since that day, not an hour goes by that I don't relive that holocaust in my mind. Not a minute goes by that I don't think about my precious daughter. That bright, energetic little girl with an unlimited potential - all snuffed out by a drinking driver.

The children on that bus were the leaders of tomorrow - honor students - band members. My daughter, who was a straight A student, had won 3rd place in a speaking contest just 4 days prior to her death. The speech was ironically titled "Destiny - Choice Not Chance". To quote her "In life there are many choices to be made. Sometimes we lack the knowledge to make decisions and must learn from our mistakes. You must learn from your mistakes and the mistakes of others. You have to look for your destiny. Your future should not be left to chance. You have the choice to improve your destiny. To meet your destiny you must be careful to make the right choices because you may only have one chance".

Our daughter did not choose to die in a burning bus as a result of a drunk driver. However, we have chosen to help prevent this tragedy from ever happening again. As Patty said, you must learn from your mistakes. We must learn from the mistake that this drunk driver made. The pain and misery caused by drunk drivers is preventable. Drunk driving can be stopped - but only if we make it happen.

The <u>really</u> sad part of this whole thing is the fact that a Carrollton bus crash occurs somewhere in this country more than twice a day, 365 days a year. Day in and day out, drunk drivers kill 65 people, <u>every single day</u>, and that doesn't include the injured, maimed, and disfigured victims, or their families.

Drunk drivers have made us suffer. Please do not let this pain, suffering, and death be in vain. You have the choice to do something that will benefit this country. Please help us to rid our highways of their biggest threat - The Drunk Driver!

BEST COPY AVAILABLE

Mr. LUKEN. The next witness is Judge Phillip Nichols.

STATEMENT OF C. PHILLIP NICHOLS, JR.

Judge NICHOLS. Mr. Chairman and members of the subcommittee, thank you for your kind invitation to speak this morning on the issue of drunk driving. Drunk drivers present us, that is, the lawmakers, the law enforcement officers, judges and those of us who drive on our highways, with a dual problem. Drunk driving is a crime, but more importantly, it comes to us with the curse of alcoholism.

While there are some things that we can do to stop a person from driving, alcoholism remains a constant problem that not only society must deal with but the alcoholic, who often must deal with it on a daily basis. Last year in my home county, we saw 6,647 drivers arrested for alcohol-related driving offenses. In the fiscal year 1982-83, we saw 4,449 people arrested for the same offenses. This is nearly a one-third increase in a relatively short 5-year period of time.

The reason for this jump in the arrest rate can be attributed to a greater visibility of the crime, the stepped-up enforcement of DWI laws, and in general, society's refusal to merely ignore the drunk driver. Statistics, however, do not tell the story very well. What tells that story is the experience and feeling that virtually all of us have felt when someone close to us has been killed or maimed by a drunk driver.

To me, it is the son of one of my secretaries. His name was Bruce. Last year he was the first runner-up for an appointment to the U.S. Military Academy from our Congressman, Steny Hoyer. Every parent's worst nightmare came true when his mother found a police officer on her front doorstep early one morning with the sad duty of informing her that her son had been killed in an automobile accident late the night before. Maybe "accident" is not the right word, as the other driver, also a young college student, was later charged with driving while under the influence of alcohol. This is a tragedy not only for Bruce's family and those who knew him, but for all of us.

Today my county, Prince Georges County, has more resources available to it. Today my county, Prince Georges County, has more resources available to it than perhaps any other in Maryland. Our Governor, William Donald Schaefer, has been supportive of our State Division of Parole and Probation by increasing the staffing levels of our drinking/driving monitor program. Those defendants that we place in that monitor program report weekly to their probation agent rather than the monthly that our other probationers do.

We require them to attend Alcoholics Anonymous. We send them to classes on alcoholism through our Health Department. Our county government has even built a detention facility that deals exclusively with the drunk driver.

A couple of years ago we noticed that some probationers were reporting after having been drinking, in violation of our policy of the total abstinence from alcohol. Since it is sometimes difficult to detect alcohol on a person's breath, we involved community organi-

zations such as the Rotary Clubs in our county, who donated as a community project a portable breath tester, what we call a PBT. That same technology used in the PBT has been refined to the point where we can order it installed on a defendant's automobile.

This device, called an interlock, is perhaps one of the greatest tools to come along for those of us charged with dealing with the drunk driver. Before July 1 of this year, the interlock device was something that I ordered installed with the consent of the defendant on his or her automobile. I found myself in the unenviable position of bargaining with a criminal: that is, trading jail time for the installation of that interlock device.

Now our legislature has passed and our Governor has signed into law legislation that allows a judge to order the installation of the interlock without the consent of the defendant. It authorizes our Motor Vehicle Administration to code the driver's license of the defendant so that a police officer will know the defendant is required to drive a car with that interlock device, and it makes it a crime to tamper with that device once it is installed.

While the interlock device may not be the total solution to the DWI problem, it provides a judge with a great tool to ensure that the convicted DWI offender will not drive that car while drunk again. I would urge Congress to consider legislation that will require the States to give judges the option to order the installation of that interlock device without having to bargain with DWI offenders, and just as importantly, to code drivers licenses so that police officers can verify compliance when they stop a suspected offender.

While treatment programs, specialized detention facilities and enhanced probation supervision are important, so too, to me, is the device that does exactly what all the rest are supposed to do: stop drunk driving.

Thank you, Mr. Chairman.

Mr. LUKEN. Mr. Blair.

STATEMENT OF R. GREG BLAIR

Mr. BLAIR. Thank you, Mr. Chairman. I appreciate the opportunity to be here this morning. I'm here to give you some information about a system that can help reduce the needless injury, maiming and killing of innocent people on America's highways.

Each year, over 40 percent, as we've already heard, of all traffic fatalities are related to the use of alcohol. This year alone, according to the Insurance Institute for Highway Safety, Americans will spend over $18 billion on beer, wine and liquor and then cause over a half million injuries in alcohol-related traffic accidents, with an estimated cost to society of $10 billion.

These staggering statistics are a part of a very sobering picture that affects all of us. In fact, according to a study done by the National Highway Traffic Safety Administration, it's estimated that two out of every five people in this room will be involved in an alcohol-related traffic accident sometime in their lives. The severe problem of drinking and driving has captured our attention through the efforts of such organizations as Mothers Against Drunk Driving and through the extensive coverage by the media.

However, the problem has not gone away. Tragedies such as the Carrollton, KY bus accident which continue to appear on the front pages of our newspapers and on the evening news, show that in some cases, the problem has gotten worse. One of the major reasons for this continuing trend is our courts' relatively mild treatment of the first time DOI offender.

Even though research by the National Highway Traffic Safety Administration shows that on average, persons arrested for DUI violations have been driving drunk at least four times per week for several years before being apprehended. In fact, these statistics show that DWI offenders usually have to commit between 200 and 2,000 violations before their first arrest. Nevertheless, most States give first time offenders a slap on the wrist, which usually involves a 30 to 90 day license suspension and a fine of less than $500.

For example, in 1984, when Larry Mahoney was sentenced for his first drunk driving offense, he was fined $300 and he had his license suspended for 6 months—this, despite the fact that he had a recorded BAC level of 0.16—far above the legal limit in Kentucky. Each time the subject is raised concerning stiffer penalties such as longer license suspensions or mandatory jail time, critics denounce them by saying such punishments are too harsh for first time offenders, especially since it's only their first time.

What they fail to say is that in all probability, it's not their first time driving drunk. These critics also ignore the fact that over 10 percent of all drivers in fatal crashes involving alcohol, had a prior conviction for drunk driving within the previous 3 years. The question becomes, what can we do to allow these people to serve society, yet not be a menace on our roadways?

The answer can be found in this ignition interlock system which prevents intoxicated individuals from starting their cars. The system works by connecting a breath analyzer to a vehicle's electrical system. Once it's installed, the person must blow into the interlock before starting the vehicle. If the system sense a blood alcohol level above the preset limit, usually 0.02 percent, the vehicle will not start.

To make sure that interlock users are complying with their sentence, we created the Interlock Responsible Driver Program. This program involves installing the interlock, training the user and periodically inspecting and maintaining the system. Trained technicians in monitoring centers throughout the country, visually and electronically check for signs of tampering and obtain a readout from the interlock's built-in computer that records attempts to bypass the system.

Any deviations from the program are immediately reported to the proper authorities. As a safeguard against having someone other than the driver start the car, we have included a breath code in the device. This code, which is a series of long and short breaths, takes time to master and thus lessens the chance of an intoxicated individual teaching a sober person how to use it.

Currently, in areas using the Guardian's program, the incidence of repeat DUI arrests has dropped an average of 70 percent for interlock users, compared to offenders sentenced to other sanctions such as license suspension. Despite the interlock's success, there has not been unilateral acceptance of the system in the legal and

judicial communities. The reasons for this vary, however, here are a few: First, the interlock is new technology that radically alters the judicial system. Recently, the focus of sentencing has been on long license suspensions. In theory, this sounds great. Take away a person's license for a year and that person will be kept off the road. In reality, this just doesn't work.

According to MADD, 60 to 80 percent of persons with restricted or revoked licenses drive anyway. It's a fact of life in this country that our lifestyles are based on the automobile. Quite simply, most of us need the automobile to make a living.

Second, some feel that mandatory jail time is the answer. While it is true that by being in jail, a DWI offender is kept off our roads. It is simply economically and physically impossible to put all DWI offenders in correctional facilities. Not only are our jails already overcrowded, there is no evidence to say that jail sentences significantly reduce recidivism.

Third, some want State and Federal agencies to conduct tests that will last into the 1990's before putting their stamp of approval on the interlock. This logic means that more and more people who might have been saved by increasing the use of interlocks, will die on our highways under current sanctions, many of which were implemented with less data than we now have on interlocks.

The real question is, why wait to use interlocks? Interlocks have shown that they do work to help protect the public from drunk drivers and they are certainly better than license suspensions that do little to control the temptation to drive. In addition, consider the fact that interlocks do not cost taxpayers anything, since their expense is paid for by the offender.

Some studies even show that interlocks can actually modify behavior and change a person's drinking habits. For example, in the current issue of Fortune magazine, an interlock user is quoted as saying, counseling helped me cut back on my drinking, but this, meaning the interlock, made me stop.

Now, that you've heard about the interlock, please ask yourselves this question: wouldn't your constituents, as well as all Americans, welcome any opportunity to decrease the number of drunk drivers on the road? With your help and immediate action on this issue, an issue that affects all of us; you can make a difference.

Therefore, we recommend that you encourage NHTSA and other governmental agencies to endorse the use of interlocks until they can find a better way to reduce drunk driving. We also recommend that you require the allocation of Federal highway support funds to be contingent upon the following: State laws that require for all first time offenders, a 30-day license suspension and a concurrent 1-year interlock sentence; second, State laws that give second offenders a 60-day license suspension with a 1-year occupational drivers license and a concurrent 24-month interlock sentence; and finally, State laws that provide third offenders with mandatory incarceration, followed by a 5-year occupation license with a concurrent 5-year interlock sentence.

We in the interlock industry feel that these measures will greatly improve present efforts to keep drunk drivers off the roads. We also feel that American lawmakers should not be content with cur-

rent laws that are obviously not working. In closing, I want to acknowledge and commend all of the judges, probation officers and legislators who have shown the courage and the vision to support interlock programs in many areas of the country.

Their efforts have been phenomenally successful. I would also like to acknowledge this committee for its leadership in giving this problem the priority status that it deserves. Thank you very much.

Mr. LUKEN. Thank you, Mr. Blair. I thank all of the witnesses. We're going to have to continue in this stuttered fashion because you hear those buzzers that are interrupting us. I'm going to proceed now for a few minutes and begin the questioning so that we make the maximum use of the time. Then I'm going to have to interrupt again for a few moments. So, we beg you to suffer with us on procedures that we have.

Mr. and Mrs. Nunnallee, originally, we congratulated you for your willingness to go through what obviously are very emotional, traumatic situations that you do in recounting the events of the accident, but since you have done it, I'd like to ask you to elaborate.

Apparently, you feel that the best thing you can do, because of the death of your daughter, is to conduct a campaign for safety measures that would prevent this from happening to anyone else; is that right?

Mr. NUNNALLEE. Yes.

Mrs. NUNNALLEE. That's correct.

Mr. LUKEN. That is your principal objective in being here today and basically, in what you are doing as a result of the accident.

Mr. NUNNALLEE. Is to try to prevent this from recurring, or similar tragedies from recurring.

Mr. LUKEN. You pointed out, I think, something that's very important—the difference between your viewpoint and sometimes the viewpoint of a regulator. We can't be totally critical of those regulators who talk about tradeoffs. sometimes, tradeoffs are a reality. In this case, when we talk about regulators who reject the requirements, installing of requirements and setting of standards and they say the reason is that there have been so few bus accidents and as you have pointed out, this shouldn't be the criterion; should it?

Mr. NUNNALLEE. Absolutely not.

Mrs. NUNNALLEE. Absolutely not.

Mr. LUKEN. Why is that?

Mrs. NUNNALLEE. If you had to suffer through the loss of a child, it's just like every time we see of another accident on the highway involving a drunk driver or a fiery crash, we relive the day that our daughter died. You just cannot imagine the loss of something that was a part of you, an integral part, especially of a mother. You just cannot imagine what it does to us.

We know, as parents, how every parent feels when they lose a family member.

Mr. NUNNALLEE. Another thing—it's not surprise to anyone here that in our society and virtually throughout the world, we treat our children different than we treat adults. That's what makes us human. There's something about the way we treat children and we have to have higher standards for our children. That's the right thing to do.

Mr. LUKEN. We should recognize, as you pointed out, that children don't voluntarily get on those buses or even voluntarily get to school. That's in the nature of children. they do what we as parents and custodians in various ways direct them to do. We ought to be especially sensitive about them.

Isn't there something else here? Just in the nature of it, as unfortunately, tragically was revealed here; when an accident of this kind happens, it's a catastrophe; it's a cataclysm. It's just horrible to contemplate when 27 people are actually killed. It's not just like when the regulators say there hasn't been a significant incidence of accidents; when one happens, it's as if there might be thousands or tens of thousands of similar accidents in comparison. Isn't that basically what you're saying?

Mrs. NUNNALLEE. Well, statistics prove that once an accident of this sort happens, it will happen again. An accident very much along this same line, happened in California 20 years ago. There were still no changes made in emergency exits, in fuel systems, in bus safety.

Mr. LUKEN. You attended the Louisville hearings; did you not?

Mr. NUNNALLEE. Yes.

Mr. LUKEN. You heard them.

Mrs. NUNNALLEE. Yes.

Mr. LUKEN. I understand that we're going to hear from NHTSA today, but I understand that the representative of NHTSA who attended the Louisville NTSB hearings, stated something to the effect that we were patting ourselves on the back before this accident occurred. Didn't he say that?

Mr. NUNNALLEE. I remember a quote similar to that. I don't remember the exact words. I was a little surprised when one of the gentleman from NHTSA who testified for a pretty good long time—and I was a bit surprised that he spent virtually his entire time there basically defending his bureaucracy and saying, what a good job we've been doing over the years on bus safety. Well, when you make a mistake or if past judgments or things are proved later to be incorrect, a person needs to 'fess up to that and make efforts to do something better the next time.

I think trying to defend past actions doesn't do anything for the future. I would have been a lot more pleased to see them look a little more positive toward the future, rather than defending the past.

Mr. LUKEN. But significantly, he also testified, upon being pressed a little bit, that NHTSA has never really tested its standards for flammability.

Mr. NUNNALLEE. Right.

Mr. LUKEN. When he said that we had been patting ourselves on the back, he said, we had been. He admitted that this accident has caused them to reconsider that self-congratulation. That's what we intend to do here. He indicated also that they hadn't, as we know, conducted evacuation tests. They hadn't done the actual testing that we've heard described by these other agencies and if they had, it may well have been that the results would not have been as tragic as they were. That's basically what your crusade is here today; is that right?

Mr. NUNNALLEE. In fact, by pure coincidence, in the motel room yesterday, I watched a PBS special on fire safety in aircraft. I thought it was quite a coincidence. It showed detailed studies—detailed studies done by the FAA and other agencies on evacuations procedures in aircraft, in commercial aircraft.

Mr. LUKEN. We're going to be asking why we aren't doing that for NHTSA in schoolbuses. This does not conclude your testimony. Mr. Whittaker will be back, but—because of these votes that are coming up—we will have to have a 15 minute recess and we'll be back. We thank you all and apologize for making you return.

[Brief recess.]

Just one other question for the Nunnallee's. I don't think this is entirely technical. It's more, perhaps philosophical. We're talking about standards and the updating of standards and the grandfathering—we are all familiar with those terms. You probably don't use it as much as we do, but when the design of something, say, precedes the date upon which the new standard is required, those are grandfathered and permitted to be used.

Do you have any comment on that as to whether they, for example, these buses such as this one which have a gastank which is not according to current standards, which may have upholstery which we've heard testimony, is not up to current standards, either one of which may have had something to do with this accident—do you have any thoughts as to whether we should make any efforts to make buses comply with current standards?

Mr. NUNNALLEE. The answer to that is not a simple answer, because obviously, economics comes into it again and I hate—we all hate to see the money get involved in this, but that's a reality that we have to live with. It would take someone to study the economy of it and see if it's financially feasible to do it. I'm not an expert on the cost of some of these things.

As you may or may not be aware, we have negotiated with Ford Motor Co. about some of the fuel system integrity things and hopefully, we'll be able to get somewhere with that or some other associated issues. It's not an easy solution to that one and I don't know if I've got a real good answer to that.

Mrs. NUNNALLEE. I think too, most of us and I'm an educator. I was a schoolteacher and had no idea of what a death trap a schoolbus can be. If those children are going to ride on those, let all of us please be aware of what can happen to them.

Mr. LUKEN. I think that's perhaps another way to put it. A grandfathered schoolbus can be a death trap. That's what we've found out here.

Mrs. NUNNALLEE. Exactly.

Mr. NUNNALLEE. One thing I'd like to add; something we haven't mentioned at all is the subject of exits on schoolbuses. Some of those things are capable of being retrofitted onto the older buses. It's something as simple as pushing out windows. From my understanding, they're not very expensive. There are some things that can be grandfathered in, if you will, that aren't terribly expensive, but which can make a difference.

Mr. LUKEN. They certainly can. Thank you. Judge Nichols, how often have you used the alcohol ignition interlock in your sentencing?

Judge NICHOLS. As you know, it's relatively new for us to be doing this and the statistics are hard to compile. In the last few days, I've done that though. Of course, over the last year, we've done it 25 times—at least I personally have done it 25 times in the court that I preside in.

I have found that in the 25 that we have installed on defendants' automobiles, we have only had one person become arrested again for driving under the influence or driving while intoxicated and that person was not arrested in the car fitted with the interlock device.

Mr. LUKEN. Do you think that's because you're raising the level of consciousness of what the person's doing?

Judge NICHOLS. It serves as a constant reminder every time you start the car.

Mr. LUKEN. Which is really the big thing about drunken driving; isn't it?

Judge NICHOLS. Yes, sir.

Mr. LUKEN. If people knew they were driving while they were drunk, while they were doing it; most of them wouldn't do it.

Judge NICHOLS. You have to look at it as a support system. You have to go to AA twice a week. That's 2 days our of 7 that you are going to be reminded. You have to see your probation agent. That's 3 days out of the week. You have to go to an alcohol education class and that's another day of the week. Then you overlay on top of that; every time you start that car, you have to blow into this interlock device to make sure you're not under the influence. That's a constant reminder.

Mr. LUKEN. Do you have any comment on that, Ms. Sadoff?

Ms. SADOFF. Well, at this time, Mr. Chairman, you know that our No. 1 legislative goal is administrative revocation. We would support independent research to look into the efficacy of ignition interlock.

Mr. LUKEN. I meant on the overall question of probation and consciousness and so on?

Ms. SADOFF. This could be used for probation, but never in lieu of other sanctions. That's what we're concerned about and when we hear—I did talk to the Judge when we were recessed, about the importance of keeping those sanctions in place. They have given a message to the community that this is a crime; that it's our Nation's No. 1 crime. There are more arrests for drunk driving than any other crime—the preventable tragedies and that we can't lessen the sanctions by putting this in place.

Mr. LUKEN. Mr. Blair, how widespread is the use of this technology—the interlock?

Mr. BLAIR. There are three companies actively installing interlocks in this country right now and we estimate that over 2,000 ignition interlocks have been installed since about April 1986.

Mr. LUKEN. Did you give us some statistics? Do you have any statistics on the effects.

Mr. BLAIR. What I quoted in my speech was that our data shows that ignition interlocks reduced the rate of recidivism by 70 percent, versus current sanctions that are being used. That is based upon survival rate calculations. Some raw data would show that of the ignition interlock programs that we have ever had in oper-

ation, less than 1 percent of those people have ever been rearrested.

We can also make available to anyone, the data that is coming out of a statistical study that is underway in Hamilton County, OH, right now, where the judges are implementing ignition interlocks on basically three categories—anyone with a multiple DUI offense; anyone who has BAC above 0.2 percent; and people who refuse the breath test.

In a short period from July 9, 1987, to December 31, 1987, there were 1,579 people who were eligible for that. Since that time, 4.4 percent of that entire population has been rearrested. Of the people who were offered the interlock, 157 accepted and one person is being rearrested or 0.6. People offered——

Mr. LUKEN. What percentage accepted it approximately? About a third; did you say?

Mr. BLAIR. 1,579 who were eligible offered; there were about 255 who were offered and about two-thirds accepted.

Mr. LUKEN. Two-thirds accepted. It's interesting that a third opted for what? What was the alternative? Suspension?

Mr. BLAIR. License suspension; that is correct. A third of the people opted for license suspension. Of the 157 who accepted, one person or 0.6 percent has been rearrested in that time. Ninety-eight people who were offered and refused; eight people or 8.2 percent, were rearrested, which is basically double that of the control group.

Mr. LUKEN. I think the point is that we could certainly all agree on it, I believe and you might want to comment on it, Ms. Sadoff; you have a broad legislative program which indicates, I think, that you mean that we should be fighting this more on many fronts. We ought to be using whatever techniques and weapons that are available in the battle.

It seems to me from what I've heard, that this one, we might encourage the broader use of it so that we can tell whether these statistics—would you agree Judge? You're shaking your head affirmatively?—so that we could tell on a nationwide basis, whether the experience that you've had and the experience that they have had in Cincinnati, whether that can be extended on a nationwide basis to say that it's a program that should be encouraged. We ought to do more experimentation along that line.

As far as MADD's proposals, for example, MADD suggests that the 0.10 standard is too lax, too liberal, shall we say. It should be reduced to 0.08. Unfortunately, I can remember when in Ohio which is my State, it was 0.15 and when it was reduced to 0.10, at least in those days, I thought it was rather shocking. You can imagine what age I was at that time. That's about 30 to 40 years ago. We young folks didn't want any such restrictions as that at the time.

Actually, as it's turned out, the 0.15 to 0.10, I mean, it's just something that we were used to, 0.15, and not being sensitive to it, especially youth, you don't realize that 0.15 was ridiculously high. Now that we're used to 0.10, we're beginning to realize that 0.10 may be a little bit high also. I encourage you to proceed with that.

I don't think that we can get down to ridiculously low position, but certainly, 0.10 does indicate being under the influence and

being impaired. It might well be reduced as your organization suggests and mandatory testing and you also have a position which is kind of legalistic, which I think is a good one to consider. That is, that the results of the test, instead of being presumptive evidence, would be in effect, conclusive evidence that a person is under the influence.

What do you think of that, Judge? Do you have any comments on that?

Judge NICHOLS. Everyone is entitled to a fair trial. In my State, we don't do that. We're still at the presumption.

Mr. LUKEN. Thank you. Does counsel have questions?

Mr. BERGMAN. Thank you, Mr. Chairman. I have just a couple of questions for Judge Nichols relating to sentencing and the use of the interlock device. First of all, what typically are sentences for first time offenders, second time offenders.

Judge NICHOLS. I can tell you briefly the experience in my State. For some crimes in Maryland, our Maryland judicial conference has gotten together and proposed guidelines for judges to follow for serious crimes. We're in the process now of reviewing whether, in fact, we should have a similar guideline for DWI offenses.

We don't have that yet. There is a broad spectrum of sentencing policies and it's left in the discretion of each sentencing judge, what that sentence ought to be. I can tell you that in one of the southern counties in Maryland, that a judge down there thought that there was only one sentence for a drunk driver and that was the year in jail which was the maximum penalty, whether you were a first offender or last offender.

Not every judge in Maryland felt that way. Your basic first offender generally gets a fine; gets a period of probation and gets required to take an alcohol education course—assuming that they are viewed to be a social drinker and not a problem drinker. The person who is a problem drinker, at least in my county, might find themselves, even as a first offender, in our DWI facility, the jail that I spoke about earlier that runs a program that runs in 7, 14, 21 and 28 day cycles.

It's at the discretion of the judge as to how many days or weeks you spend in it. It's a live-in, work-out program. There are classes at night and on the weekends and the offender is expected to pay his or her own way while they are incarcerated. Those are the kinds of sentences.

Mr. BERGMAN. So there is generally no license suspension on the first offense?

Judge NICHOLS. Well, it depends. There are two ways to do it. When you take the test when first arrested, that gets you over the first hurdle. In Maryland, if you refuse the test when offered by the police officer, the legislature mandates that your license be suspended mandatorily for 60 days and can be for as much as 6 months in the discretion of the hearing examiner at the Motor Vehicle Administration.

After you've gotten over that hurdle and then you go to court, it's then again within the discretion of the Motor Vehicle Administration, based on the conviction, to again suspend or in fact, revoke your license, based on the accumulation of points.

Mr. BERGMAN. What percentage of cases involve drivers who have DWI records or previous convictions?

Judge NICHOLS. I've seen statistics, but I can't give you the exact number. I think the vast majority of people involved are first offenders. I think probably closer to 20 to 30 percent are repeat offenders. I think it's in the nature of about 20 percent that are repeat offenders.

Mr. BERGMAN. One more question relating to the interlock devices. You said that you've used it 25 times in the last year—what kind of cases do you use it in and under what circumstances?

Judge NICHOLS. I can give you a couple of examples. One of my colleagues in southern Maryland, Judge Larry Lambsden, he has taken the approach that anyone at 0.15 or better, gets the device installed on their car. I've taken the approach that it's generally for second offenders or repeat offenders. I've also had a case recently where a very young driver was arrested. He had a prior juvenile record for drunk driving which didn't appear on his motor vehicle driving record for some reason. I took him and even though he was technically a first offender in our system and put the interlock on his car. This was a student at the University of Maryland.

I also put the interlock device on a car where I had an offender who was your basic seventh offender who has spent 2 years in a VA hospital trying to cure his alcoholism; had been in jail a number of times. We all agreed that even if he didn't have a license, he might drive and it was everyone's opinion that it would be worthwhile to put the device on the family car—just in case he did get drunk and drove with or without a license. The members of the family went along with that.

Those are some of the instances. I think primarily for me, the repeat offender is the one.

Mr. BERGMAN. How long do they typically have the device on and do you monitor this?

Judge NICHOLS. Generally a year. Every 60 days, the device is checked for tampering. We check to make sure that the car is driven the number of miles that it should be; that the person has not gotten another car and is driving it on the side. We check for those kinds of things.

This device is a really good idea, a good way to keep track of someone.

Mr. BERGMAN. Thank you, Mr. Chairman.

Mr. LUKEN. Thank you very much. Is there anything that any of you would like to add that we haven't asked?

Mrs. NUNNALLEE. I have an easier solution than an interlocking device. You're trying to deter these people from driving. Take the license plate off their car. The police will see it; they will automatically get stopped, and it will cost you nothing but the cost of a screwdriver.

Mr. LUKEN. Well, that would disable that car, but not necessarily that driver. It's a suggestion.

Anyway, thank you very much for your testimony. All of it has been very helpful, and we should be able to proceed based upon it. Thank you.

We thank you, Ms. Steed, the Honorable Diane Steed of NHTSA, Administrator of the National Highway Traffic Administration. Would you come forward?

We have your testimony, and we thank you for submitting that written statement, and you may proceed now in any way that you feel will be helpful and, of course, reacting to anything that has been said.

STATEMENTS OF DIANE STEED, ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, ACCOMPANIED BY RALPH HITCHCOCK, DIRECTOR, OFFICE OF VEHICLE SAFETY STANDARDS AND GEORGE PARKER, ASSOCIATE ADMINISTRATOR FOR ENFORCEMENT

Ms. STEED. Thank you, Mr. Chairman.

Let me introduce for the record my colleagues at the table today. To my left is Mr. Bill Scott, the Director of the Office of Alcohol and State Programs. To my right is Mr. Ralph Hitchcock, Director of the Office of Vehicle Safety Standards, and to his right is Mr. George Parker, the Associate Administrator for Enforcement.

Mr. Chairman, let me begin by expressing my own feelings of shock and frustration about the tragic crash that occurred in Carrollton, KY. Nothing that we can do will really erase that loss, and our hearts definitely go out to the families and the friends of those who died.

It must be—and let me assure, Mr. Chairman, it is—our goal to learn exactly what happened and to do whatever we can to ensure that the Carrollton tragedy will not be repeated.

I want to talk today just briefly about both bus safety and about drunk driving, and let me begin with schoolbus issues first.

The church bus in the Carrollton crash was typical of the schoolbus body type which has been used for years. The safety record of these vehicles over the years has been remarkably good. Over the past 10 years, schoolbus occupants have sustained an average of 15 fatal injuries each year. In view of the 3.3 billion miles traveled by the Nation's schoolbuses, the schoolbus is one of the safest means of travel that we have.

Now while the record of pre-1977 buses was good, we believe that the standards that we issued back in 1977 have improved this already good safety record and contributed to a reduction in the number of nonfatal injuries to schoolbus occupants. The standards require energy-absorbing materials within the bus, higher seat backs, stronger seats, strong roof and body joints, more accessible exits, and more impact-resistant fuel systems.

In a 1987 report on 43 accidents involving these large buses, post-standard buses, the NTSB concluded that the standards worked well to protect schoolbus passengers from injuries in all types of accidents. Other reviews of these standards and the statements made by witnesses at last week's NTSB field hearing also support the view that the standards have made schoolbuses even safer for the Nation's children than they were before.

Nonetheless, Mr. Chairman, with the news of the Carrollton crash, we immediately began a new examination of the available information on schoolbus safety with a specific focus on each of the

schoolbus safety standards. We intend to complete this review by September.

In addition, we have contracted with the National Academy of Sciences last year for a complete reexamination of schoolbus safety pursuant to an act passed in 1987. The charge to us under that act is to report on the most effective measure for protecting children while boarding, leaving, and riding schoolbuses. We've been working closely with the National Academy and expect to have their report early next year.

These inquiries and the NTSB's ongoing investigation of the Carrollton crash, we believe, will give us valuable information from which to decide what further steps should be taken to improve the safety of children riding in schoolbuses, and I might add, Mr. Chairman, that the information that we get from these hearings will also add to that record.

I firmly believe that we must do whatever we can to avoid repetition of the tragedy at Carrollton.

The inquiry into the Carrollton crash, in addition to examining the impaired driver problem, has focused on four aspects of schoolbus safety—fuel systems, body and floor joints, emergency exits, and the flammability of interior materials.

We know that the bus involved in the Carrollton was manufactured in early 1977, and therefore it did not conform to the standards which we issued and made effective April 1, 1977. Therefore, there is a question whether a bus manufactured in compliance with those new standards might have withstood the extremely severe impact that dislodged and penetrated the tank of the Carrollton bus. The testimony of expert witnesses at last week's NTSB hearing was that the protective steel cage would probably have kept the tank in place, but they could not say whether the cage would have prevented from the tank being punctured.

The Kentucky bus had a rear exit door in the location required by the 1977 standards, and apparently it operated in the manner it was supposed to. However, it did not comply with the accessibility requirement of our 1977 standards, since the door was partially blocked by the rearmost seats. A bus manufactured in compliance with the 1977 standards would have provided better access to the rear door, but it is difficult for us to say at this point how much difference this would have made in the Carrollton crash.

There are a number of schoolbuses which comply with the option permitted by our Federal standards of having an emergency exit on the left side of the bus toward the rear and an additional emergency exit at the rear. Other buses, including some purchased for public school use in New York, are equipped with several pushout windows on each side as additional emergency exits. Each of these features might offer additional pathways in crashes such as that in Carrollton, and these features could provide additional means for emergency workers to enter a schoolbus to assist the occupants.

In developing the schoolbus standard originally, we had been concerned by the evidence of children being ejected through bus doors and windows during crashes, and therefore had structured the standard specifically to minimize this, while providing adequate egress. The tradeoff between the containment of occupants

and their safe egress may need to be reexamined in light of the Carrollton crash.

The third area of our inquiry, the flammability of seat covers, seat cushions, and so forth, raises several issues relevant to the protection of occupants in crashes. The standard that we now have on the book became effective for all vehicles in 1972, as you've heard earlier. We therefore presume that the Carrollton bus did comply.

We had tested a bus produced by the same manufacturer in 1973 and had found that all regulated materials complied with our standards. The purpose of the standard is to prohibit the use of materials which can rapidly propagate a flame and thereby prevent fires from sources such as matches or cigarettes.

We can't be certain again at this point of the role of the interior materials in the Carrollton bus, since the gasoline and the tires and other external components were also burning and producing flames and carbon monoxide which entered the bus and apparently caused the deaths of the occupants.

We began our own inquiry on various types of flammable materials and looking at the tradeoffs between toxic conditions and burn rates and so forth after the BART fire that you heard about, which led the agency to conclude in 1980 that laboratory evaluation of padding, as well as field experience, did not support the extension of the more stringent flammability standards to schoolbuses at that time.

In particular, as of that date and indeed until the Kentucky crash, there was no record of any fatal schoolbus crash in which fire contributed to the fatal injuries. One of the findings of our inquiry in 1980 was that there was a tradeoff, and you've heard "tradeoff" words many times this morning, among the properties of impact resistance, fire resistance, and the production of toxic gases. The materials which provided the best crash protection for the children were not as good as other materials in their combustion characteristics, and conversely the materials with superior combustion characteristics we found substantially inferior in providing crash protection, to the point that the seats containing those materials could not comply with our standard for interior crash protection.

In view of the much higher risk of impact injury compared to the risk of fire injury, the agency concluded that it was more important to preserve the superior impact protection for the children, as long as the material was capable of meeting the basic flammability requirements of our standard 302.

We have continued to monitor schoolbus crashes with the same result until the Carrollton crash. There had been no crash in which schoolbus occupants received fatal injuries from fire.

If the current inquiries on schoolbus safety suggest that there are practicable measures which we can take to improve the safety of children without degrading another important safety attribute, we will not hesitate to begin rulemaking to that end.

Let me spend just a moment or two on drunk driving. Alcohol abuse is the most important factor in the Carrollton crash. With a blood alcohol content reported to be at 0.26 percent, the driver of the pickup truck that struck that bus was severely impaired. The fact that his intoxication led to the deaths of 27 people in a single

crash was tragic and extraordinary. What is tragically ordinary in this case is that other intoxicated drivers, many with blood alcohol levels as high or higher than his, are killing people one or two at a time every day, day in and day out. Almost 24,000 people lost their lives in alcohol-related crashes last year.

We have made the reduction of drunk driving one of our highest safety priorities over the last several years, Mr. Chairman, and we continue to make it one of our highest priorities.

We have done a number of programs working with the States, assisting them to toughen their drunk driving laws, to improve the enforcement of those laws. We are examining many other measures that might in the future help States improve their drunk driving programs. One of those specific measures is to help the States prevent drunk drivers who have had their licenses suspended from driving, who will drive despite that suspension of their license, and among those devices is the ignition interlock which you've heard about this morning.

This device, which we've studied extensively, is designed to detect the presence of alcohol in the driver's breath and to prevent the driver from starting the vehicle. Our study concludes that the ignition interlock technology is feasible for detecting blood alcohol levels as low as 0.04 percent, and that techniques exist to prevent circumvention of the interlocks by all but the most determined individuals, having special knowledge and making plans beforehand.

We believe that the interlock may very well be practical as a court-assigned sanction in addition to other sanctions for convicted DUI offenders. But we need real-world operational data to support this belief. A number of field evaluation efforts are planned or underway, but the results are not yet available.

I should point out that at this point we do not recommend the use of the interlock in lieu of other sanctions, but rather see it as a tool that can be used in addition to some of the other sanctions that are handed out for the drunk driving offense.

There is no single magic bullet for the problem of alcohol-impaired driving and no substitute for a comprehensive program. So as we deal with alcohol interlocks these days, we're dealing with it in terms of comprehensive programs for the States.

I think that in summary presents the picture of what we're trying to do at the National Highway Traffic Administration, and my colleagues and I would be happy to try and answer your questions.

[The prepared statement of Ms. Steed follows:]

STATEMENT OF DIANE K. STEED
ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
BEFORE THE SUBCOMMITTEE ON TRANSPORTATION,
TOURISM, AND HAZARDOUS MATERIALS
OF THE
HOUSE COMMITTEE ON ENERGY AND COMMERCE

August 10, 1988

Mr. Chairman and Members of the Subcommittee. I am pleased to appear before you today to discuss the issues of school bus safety and alcohol-impaired driving, which have been so tragically connected in the Carrolton, Kentucky, church bus crash. With me at the witness table are George Parker, Associate Administrator for Enforcement, Ralph Hitchcock, Director of the Office of Vehicle Safety Standards, and William Scott, Director of the Office of Alcohol and State Programs.

Mr. Chairman, let me begin by expressing my feelings of shock and frustration about the lives lost in the Carrollton crash. Nothing that we can do can erase that loss, and our hearts go out to the families and friends of those who died. It must be our goal to learn exactly what happened and to do whatever we can to ensure that the Carrollton tragedy will not be repeated elsewhere. That is the best memorial we can offer for the victims of that terrible crash.

Some 60 Americans die every day in alcohol-related crashes; almost 24,000 die each year. Alcohol is the number one source of fatal motor vehicle crashes, which are the principal killer of persons from age

BEST COPY AVAILABLE

5 to 34. Thus the Carrollton crash is both typical and atypical -- typical in that it involved a drunk driver; atypical in that 27 people died in a single crash.

I will return to the larger issue of drinking and driving, but first I want to focus on the school bus issues.

The church bus in the Carrollton crash was typical of the school bus body type which has been in use for many years. The safety record of these vehicles over the years has been remarkably good. Over the past ten years, school bus occupants have sustained an average of 15 fatal injuries each year. In view of the 3.3 billion miles travelled by the nation's school buses each year, the school bus is one of the safest means of travel we have. On a passenger-mile basis, there are 0.017 school bus fatalities per hundred million passenger miles travelled, compared to 1.37 occupant fatalities per hundred million miles in passenger cars, an 80-to-1 advantage for school buses.

While the safety record of pre-1977 school buses was good, we believe that the standards which we issued in 1977 have improved this already good safety record and contributed to a reduction in the number of non-fatal injuries to school bus occupants. Although our records show that the principal causes of school bus crashes are driver error and faulty maintenance, and that school bus occupants represent only 10 per

cent of the persons fatally injured in crashes involving school buses, the importance of protecting children in the buses has been the principal goal of our safety rulemaking. The standards require energy-absorbing materials within the bus, higher seat backs, stronger seats, strong roofs and body joints, more accessible exits, and more impact resistant fuel systems. In a 1987 report on 43 accidents involving large post-standard school buses, the National Transportation Safety Board concluded that the standards "worked well . . . to protect schoolbus passengers from injuries in all types of accidents." Other reviews of these standards, and the statements of witnesses at last week's NTSB field hearing, also support the view that the standards have made school buses even safer for the nation's children than they were before.

With the news of the Carrollton crash, however, NHTSA immediately began a new examination of the available information on school bus safety, with specific focus on each of the school bus safety standards. We intend to complete this review by September. In addition, the agency had contracted with the National Academy of Sciences in 1987 for a complete reexamination of school bus safety, pursuant to section 204 of the Surface Transportation and Urban Relocation Assistance Act of 1987. The charge to us under that Act is to report on the most effective measures for protecting children "while boarding, leaving, and riding in schoolbuses." We have been working closely with the Academy and expect to have the complete report by early next year. These inquiries, and the NTSB's investigation of the Carrollton crash, will give us valuable information with which to decide what further steps should be taken to improve the safety of children riding in school buses. We must do what

we can to avoid a repetition of the tragedy at Carrollton.

The inquiry into the Carrollton crash, in addition to examining the impaired driving problem, has focused on four aspects of school bus safety: fuel systems, body and floor joints, emergency exits, and the flammability of interior materials. From the early phases of the investigation, we know that the bus in the Carrollton crash was manufactured in early 1977 and that it did not conform to the standard on fuel system integrity which became effective for school buses on April 1, 1977. There is thus a question whether a bus manufactured in compliance with the standards might have withstood the extremely severe impact that dislodged and penetrated the tank of the Carrollton bus. The testimony of expert witnesses at last week's NTSB hearing was that the protective steel cage on a new tank would probably have kept it in place, but they could not say whether the cage would have prevented the tank's puncture.

The Kentucky bus had a rear exit door in the location required by the 1977 standards, and apparently operated in the manner required by the standards. However, it did not comply with the accessibility requirement of the 1977 standards, since the exit door was partially blocked by the rearmost seats. A bus manufactured in compliance with the

1977 standards would have provided better access to the rear door, but it is difficult to say how much difference this would have made in the Carrollton crash. There are a number of school buses which comply with the option permitted by the Federal standard of having an emergency exit on the left side toward the rear of the bus and an additional emergency window exit at the rear. Other buses, including some purchased for public school use in New York, are equipped with several push-out windows on each side as additional emergency exits. Each of these features might offer additional exit pathways in crashes such as that at Carrollton. These features could also provide additional means for emergency workers to enter a school bus to assist the occupants. In the development of the school bus standards, we had been concerned by evidence of children being ejected through bus doors and windows during crashes and had therefore structured the standard to minimize ejection while providing adequate egress. The trade-off between the containment of occupants and their safe egress may need to be reexamined in the light of the Carrollton crash.

The third area of inquiry, the flammability of the seat covers, seat cushions, and other interior components in the Carrollton bus, raises several issues relevant to the protection of occupants in crashes. The applicable safety standard, Motor Vehicle Safety Standard No. 302, Flammability of interior materials, became effective for all vehicles in 1972. We therefore presume that the Carrollton bus complied. We had tested a bus produced by the same manufacturer in 1973, and had found that all regulated materials complied with the standard. The purpose of

the standard is to prohibit the use of materials which can rapidly propagate a flame, thereby preventing fires from sources such as matches or cigarettes. We cannot be certain of the role of the interior materials in the Carrollton bus, since the gasoline, the tires and other external components were also burning and producing the flames and carbon monoxide which entered the bus and apparently caused the deaths of the occupants.

The production of toxic combustion products is another matter. Some of the substances applied as flame retardants and some of the flame resistant materials used in upholstery may produce gases when subjected to heat or direct flame. Standard No. 302 does not regulate the production of such gases, even though some may be toxic. These gases were found to have played a role in the 1976 Bay Area Rapid Transit subway fire, which led to consideration of more stringent standards for interior materials on subway cars.

NHTSA began its own inquiry after the BART fire, which led the agency to conclude, in 1980, that laboratory evaluation of padding and seat cover materials, as well as field experience with school buses, did not support the extension of the more stringent flammability standards to them at that time. In particular, as of that date (and, indeed, until the Kentucky crash), there was no record of any fatal school bus crash in which fire contributed to the fatal injuries. One of the findings of our inquiry was that there was a trade-off among the properties of impact resistance, fire resistance, and the production of toxic gases. The materials which provided the best crash protection for the children were

not as good as other materials in their combustion characteristics. Conversely, the materials with superior combustion characteristics were substantially inferior in providing crash protection, to the point that seats containing those materials could not comply with Standard No. 222, our standard for interior crash protection. In view of the much higher risk of impact injury compared to the risk of fire injury, the agency concluded that it was more important to preserve the superior impact protection for the children, as long as the material was capable of meeting the basic flammability requirements of Standard No. 302. We have continued to monitor school bus crashes, with the same result: until the Carrollton crash, there had been no crash in which school bus occupants received fatal injuries from fire.

If the current inquiries on school bus safety suggest that there are practicable measures which we can take to improve the safety of children, without degrading another important safety attribute, we will not hesitate to begin rulemaking to that end.

Alcohol abuse is the most important factor in the Carrollton crash. With a blood alcohol content reported to be 0.26 per cent, the driver of the pickup truck that struck the bus was severely impaired. The fact that his intoxication led to the deaths of 27 people in a single crash was tragic -- and extraordinary. What is tragically ordinary is that other intoxicated drivers, many with blood alcohol levels as high or higher, are killing people one or two at a time every day, day in and day out. Almost 24,000 people lost their lives last year in alcohol-related crashes.

We have made the reduction of drunk driving one of our highest safety priorities. With the vigorous participation of grass roots organizations such as Mothers Against Drunk Driving (MADD), Remove Intoxicated Drivers (RID), and Students Against Drunk Driving (SADD), a nationwide collective effort has reduced the percentage of fatal crashes involving intoxicated drivers by about 14 per cent since 1982. This is the first significant reduction that has ever occurred, and is a noteworthy accomplishment. Unfortunately, the crash at Carrollton shows how far we still have to go.

In our campaign against drinking and driving, we emphasize programs that increase both the perception and the reality that drunk driving will be detected and punished. We believe that the public's belief in the certainty of enforcement and sanctions -- a phenomenon we call "general deterrence" -- is a key to reducing drunk driving. Thus, we are urging the adoption of measures to ensure the prompt and complete suspension of a driver's license for driving while intoxicated. At the same time we are seeking to use every possible means to keep public attention focused on the dangers of drunk driving. The future success of the drunk driving program depends on the continued involvement of people at every level of the public and private sector.

Tragically, the pickup driver in the Carrollton crash slipped through the net of deterrence measures. There will be no end of suggestions as to how he might have been kept off the road that night. Although he was not under suspension at that time, neither his experience after his prior

BEST COPY AVAILABLE

conviction nor the likelihood of arrest were sufficient to deter him from driving. We are examining several specific measures to help the states prevent drivers who have had their licenses suspended from driving despite the suspension. Among these is the ignition interlock, a study of which we have just completed at Congress's direction. This device is designed to detect the presence of alcohol in a driver's breath and to prevent the driver from starting the vehicle. Our study concludes that the ignition interlock technology is feasible for detecting blood alcohol levels as low as .04 per cent, and that techniques exist to prevent circumvention of the interlocks by all but the most determined individuals having special knowledge and making plans beforehand. We believe that the interlock may be practicable as a court-assigned sanction in addition to other sanctions for convicted DWI offenders, but we need real-world operational data to support this belief. A number of field evaluation efforts are planned or underway, but the results a' not yet available.

We do not recommend the use of the interlock in lieu of sanctions with proven effectiveness such as license suspension. It is one of several new measures which offer promise, but there are others, such as Minnesota's recently enacted law on license plate confiscation, which are also being considered. There is no single "magic bullet" for the problem of alcohol-impaired driving, and no substitute for a comprehensive program dealing with all aspects of the problem. We need effective laws, effective enforcement, effective rehabilitation, and a population convinced that anyone driving drunk will be caught and punished. Without these comprehensive measures, there can be no assurance that another

driver made senseless by alcohol will not bring about a similar tragedy.

The Carrollton crash reminds us that highway safety depends on three factors working together -- the roadway, the vehicle, and the driver. At Carrollton, the roadway was an Interstate, one of our safest roads, and the vehicle was a school bus, one of our safest vehicles, but one driver's abuse of alcohol was enough to overwhelm the other factors and bring about tragedy.

In conclusion, I want to assure you that we are participating fully in the National Transportation Safety Board's inquiry into the Carrolton crash. We testified at NTSB's field hearing last week in Louisville and are providing other information to the NTSB about school bus safety and about alcohol-impaired driving. We anticipate that the NTSB's report, when completed, will provide a comprehensive analysis of the crash and further guidance on measures which might prevent similar disasters.

Mr. Chairman, this completes my prepared remarks. I will be glad to try to answer any questions you may have.

Mr. LUKEN. Thank you very much, Ms. Steed.

Ms. Steed, you heard the testimony of the expert witnesses, the other expert witnesses, and you heard Mr. Wood of the Washington Metro say that the NHTSA standards are inadequate, the current standards, with reference to schoolbuses.

Do you agree with that?

Ms. STEED. Mr. Chairman, if you look at the record of schoolbuses and where the problem is, up until this day, we have not had a child—up until the Carrollton crash, we had not had a child die because of a fire problem in a bus.

On the other hand, given that crash, I think it behooves us to look at that standard to see whether or not it's adequate today.

Mr. LUKEN. Well, I think you ought to take a more objective view and answer the question, at least in your own mind.

Ms. STEED. As I've said, I think it's worth looking at.

Mr. LUKEN. Because as I think the Nunnallees pointed out, we're not basing, I hope, our safety standards on just how many of these catastrophes may have occurred.

Ms. STEED. No, but——

Mr. LUKEN. These deathtraps are out there, I think, and let's discuss that, and if they're there, they could come into fruition, come into reality at any particular time. Certainly, the FAA, I hope, isn't devising its standards based upon how many crashes they have killing 300 people.

If they have situations where the accident is likely to happen, probably will happen or possibly will happen, then the FAA should take action accordingly. And I think that NHTSA should do so, too, and I'm not totally satisfied with the response that because this catastrophe hasn't happened before, that we thought our standards were okay, but now maybe they're not because this accident has happened. I think that's basically what you've just said.

Ms. STEED. Let me clarify that.

Mr. LUKEN. The gentleman from the Washington Metro and the other experts, I think were of the opinion prior to this accident that your standards, which differ from theirs, were not adequate.

Ms. STEED. They do differ, Mr. Chairman, and I think they differ for a very good reason, and I should point out that it's not just as simple as deciding to adopt the FAA standard or perhaps an UMTA standard. We are presented with the problem of having schoolbus children travel miles and miles every day, and the biggest problem we see right now is a crash problem. We see about 6,000 students——

Mr. LUKEN. You said that before, so let me interrupt. Certainly there is a crash problem on UMTA vehicles also, is there not? Just what is the big difference between subway or Metrobuses with regard to a crash problem and a schoolbus?

Ms. STEED. Well, schoolbuses——

Mr. LUKEN. Is there a difference?

Ms. STEED. There may be a difference.

Mr. LUKEN. Now maybe? If we're going to get off into this maybe, we're never going to get anywhere. Is there a difference or isn't there?

Ms. STEED. Looking at schoolbuses and the history of schoolbuses, we found that students were prone—and we were finding a very

large problem of ejection of young children on schoolbuses, and therefore we put as our highest priority the containment of those children in the bus and their protection with padding on the buses, and that is a different problem.

Mr. LUKEN. Can you cite me a report to that effect?

Ms. STEED. It was back in 1980, sir, when we looked at that, and——

Mr. LUKEN. Can you cite me a report on what you just said?

Ms. STEED. There was a 1980 report, which we had a consultant do, that looked at the tradeoffs—and there are definitely tradeoffs, and I think you heard the experts say that today.

Mr. LUKEN. Can you cite me a report where it showed the high incidence of ejections as a reason for a different standard for schoolbuses?

Ms. STEED. We have a couple of things that I'm talking about, Mr. Chairman, and the first one is the 1977 report to the Congress that talks about ejection being a large problem or part of the problem.

Mr. LUKEN. Incidentally, Mr. Wood said that the transit standards meet NHTSA standards as far as crash is concerned. Are you telling me that he's wrong in that?

Mr. PARKER. Mr. Chairman, if I may comment on that, I'm familiar with the construction of the seats in the Metrobuses, and I'm——

Mr. LUKEN. But he didn't speak just of Metrobuses. He talked about transit standards across the board.

Mr. PARKER. They're not required to meet those standards of the agency for schoolbus protection, and I don't believe that they do. I'd be happy to——

Mr. LUKEN. For crash.

Mr. PARKER. For crash, that's right.

Mr. LUKEN. You don't believe that they do.

Mr. PARKER. I don't believe that they do.

Mr. LUKEN. He said they do. He said they do, and you say you don't believe they do.

Mr. PARKER. Well, I'd be happy to check with Mr. Wood.

Mr. LUKEN. I would be happy to have a more objective, more complete answer.

Mr. PARKER. Well, it's my understanding——

Mr. LUKEN. If you don't believe they do, then you're in an area where you're just not sure, and maybe that's been the problem all along.

Mr. PARKER. Well, he has not presented to the committee here any evidence of certification data that does comply.

Mr. LUKEN. Now we didn't ask him. But we will ask him.

Mr. PARKER. Well, I guess it's my feeling——

Mr. LUKEN. We can ask him. But on the basis of your statement that you don't believe, then I'm not going to challenge him, but we'll ask him. It would be nice if you did know whether or not—what these standards were.

He testified as to the standards, transit standards, set by UMTA and what else? And the Association. Those standards, I would think, would be available to you and that you would know exactly what they are.

Mr. PARKER. I believe that he stated that he believed that the seats on those buses complied with our standard 222 for schoolbus seat protection, and I don't believe that they comply with those standards. They may comply with the UMTA standards and any other association standards. But as far as complying with the agency's standard 222, I just don't believe that they do.

Mr. LUKEN. In what respect don't they?

Mr. PARKER. If you've ridden in Metrobuses, for example, they don't have any padding on the back of those seats. They have hard bars, grab bars on them, and you couldn't have that type of construction and meet our standard 222.

Mr. LUKEN. Well, he was talking about transit standards. Now are you saying that they don't have any upholstery on any of the Metrobuses, Metro vehicles?

Mr. PARKER. They have front seat cushion upholstery, but not in back of the seat.

Ms. STEED. Mr. Chairman, we set tougher standards for schoolbuses and the protection of schoolchildren, and that involves quite a bit of padding on the rear seat of the seat in front of the child, so that the child, in the event of a crash, will be protected with this padding, and that is over and above what transit buses would have to comply with.

Mr. LUKEN. Well, perhaps you could submit a more detailed report on that. Did you say you have a 1980 report? Can you cite us chapter and verse?

Ms. STEED. I'm citing two different things. One is the report on schoolbus safety which we submitted to the Congress back in 1977, which talks about the problem and why we believed that the new standards that we had just set for protecting children in crashes were so important and the fact that ejections from those buses were a problem that we were trying to mitigate with our standards.

Mr. LUKEN. Well, NHTSA testified—Mr. Hitchcock testified——

Ms. STEED. Yes, he's here.

Mr. LUKEN. Mr. Hitchcock said, "We were patting ourselves on the back saying what a good job we did." That is in the past perfect tense; isn't that the idea? Are you still patting yourselves on the back?

Mr. HITCHCOCK. Absolutely not, Mr. Chairman. We're looking very carefully at everything we have done in the past and everything we're doing right now, and I think as the Administrator testified, we are going to do our best to see that this doesn't happen again.

Mr. LUKEN. Well, you did say that you had been patting yourself on the back, and that does indicate that perhaps the questions you're asking now and the investigation you're doing now should have been entered into before.

Mr. HITCHCOCK. Well, I just would, I guess, amplify the remarks that the Administrator was trying to make, that in the early 1970's and prior to the standards that we issued for the 1977 and later buses, we did have a problem with ejections in buses. Children were being ejected from buses, from the doors of the buses, through the windows of the buses, and through gaps in the body of the buses as a result of crashes, and that was a severe problem and——

Mr. LUKEN. A severe problem?

Mr. HITCHCOCK. A severe problem, yes.

Mr. LUKEN. Can you give us any statistics at all?

Mr. HITCHCOCK. Well, I think we had presented in that report, for example, out of approximately 61 crashes that were investigated for purposes of this report, 10 involved ejections, and 23 student fatalities were the result of ejections in those 10 crashes.

Mr. LUKEN. Over what period of time?

Mr. HITCHCOCK. I don't know that offhand. It's contained in the report here, but it's over some period of time. Anyway, out of the 61 crashes, 10 of them did involve ejections and fatalities, so it was a substantial problem.

And then the other substantial problem that we had at the time——

Mr. LUKEN. Did you do any testing for ejections? You have not done any evacuation testing, have you?

Mr. HITCHCOCK. We have done evacuation testing in the past, yes. In the development of our standards, we did do evacuation testing, and we have described——

Mr. LUKEN. Well, according to this report I got from the Louisville hearing, you said that the agency never conducted evacuation tests, as the airline industry is required to do; is that right?

Mr. HITCHCOCK. That's not exactly what I said.

Mr. LUKEN. Well, that's why I'm asking you. What did you say?

Mr. HITCHCOCK. I said we had not currently done testing of evacuation time and equated that with time that the bus would burn, and I didn't have—I wasn't able at that time to produce, you know, an exact report of how long it would take the bus to burn and how long it would take the children to get out of it.

Since that time, I've looked into it some more, and I have discovered that we have done some evacuation testing, and we even prescribe in our highway safety standard program recommendations to the school districts that they conduct evacuation drills for the children.

Mr. LUKEN. What's your title, Mr. Hitchcock?

Mr. HITCHCOCK. The Director of the Office of Vehicle Safety Standards.

Mr. LUKEN. And you testified just a few days ago that you hadn't conducted evacuation tests, which means at that time you didn't know that evacuation tests had been conducted.

Mr. HITCHCOCK. I said we did not conduct them as a routine matter in the——

Mr. LUKEN. You've just said that you didn't know about it then; you've found out since. You just said that.

Now you're the guy—you're the head of the department, and if you didn't know about it, if they're gathering dust somewhere, that's not going to do anybody any good, is it?

So effectively, you haven't done any evacuation tests, because you, as the policymaker, didn't know about them.

Mr. HITCHCOCK. They were done and——

Mr. LUKEN. The fact that you now have gone into it and found out that you did perhaps makes the extent of the problem a little more severe.

You don't know about them. I assume that other people at the policymaking level also didn't know about those evacuation tests.

Mr. HITCHCOCK. When the standard was issued in 1974 for the emergency exits on the buses, all the previous research was considered in that rulemaking, and that rulemaking resulted from the evacuation tests and all the other work that had gone on in bus safety.

Ms. STEED. I should also point out, Mr. Chairman, that Mr. Hitchcock is not in charge of the safety standard, highway safety standards, which we prescribe for the States, and that's what he was referring to. In our highway safety standards for the States, we do recommend that they do two schoolbus evacuations a year. We understand that most——

Mr. LUKEN. He's not in charge of that, safety standards for the States?

Ms. STEED. That's correct. Highway standards for the States——

Mr. LUKEN. So you're compartmentalizing Mr. Hitchcock here, right?

Ms. STEED. I'm trying to clarify what he told you, Mr. Chairman.

Mr. LUKEN. Well, I'm trying to get at what it means and what I meant by the question. It seems to me, he has something to do with that, doesn't he?

Ms. STEED. He has something to do with the vehicle side, not with the——

Mr. LUKEN. Yes, I would hope that he does.

Ms. STEED. Not with the State side.

Mr. LUKEN. You're compartmentalizing him. You're saying that he needs to know for the Federal side, but not for the State side.

Ms. STEED. No, sir. What I'm saying is, he sets the standards for the buses, the equipment standards that the buses have to meet. He does not set, for example, pupil transportation standards, which the States use to make sure that their pupils are transported safely, like evacuation programs.

Mr. LUKEN. Aren't they related? Aren't they the same thing?

Ms. STEED. No, they're not. In fact, our whole agency is split that way, if you will. Mr. Hitchcock doesn't have anything to do with drunk driving standards, which are also a State highway safety standard on behavior.

His responsibility——

Mr. LUKEN. Here we're talking about a schoolbus. We're talking about State requirements and Federal requirements. That's the compartment you're setting up.

Ms. STEED. Their requirements are their programs to teach children how to ride safely on schoolbuses and what schoolbus drivers should do, how they should be trained, and how schoolbuses should be maintained.

Mr. Hitchcock is only responsible for setting the vehicle standards that require buses to meet a certain level of safety.

Mr. LUKEN. Well, it takes 2 minutes, according to our expert testimony, for polyurethane upholstery, when it ignites, to the point where vision is completely impaired in the bus.

Have you instructed the States with reference to those—to that situation?

Ms. STEED. We have not given them a timetable, Mr. Chairman. It's my understanding that the States set about a minute and a half as their target for evacuating the bus.

Mr. LUKEN. Now the schoolbus involved in this crash was manufactured in earlier 1977, only about 3 weeks before the new schoolbus standards went into effect; is that approximately right?

Ms. STEED. That's my understanding.

Mr. LUKEN. Now the new standards required that gastanks be placed within a steel cage to give them better protection from a crash; is that right?

Ms. STEED. Correct.

Mr. LUKEN. And we know that that is an important requirement, do we not?

Ms. STEED. Yes, sir, it is.

Mr. LUKEN. Now how many of these substandard pre-1977 buses without the cage, without the gastank being secured, are on the road today?

Mr. HITCHCOCK. I don't think we know exactly, but the typical lifetime of——

Mr. LUKEN. What efforts have you made?

Mr. HITCHCOCK. Huh?

Mr. LUKEN. What efforts have you made to find out?

Mr. HITCHCOCK. I think that data is probably available——

Mr. LUKEN. What efforts have you made to find out how many there are?

Mr. HITCHCOCK. I haven't personally made those efforts.

Mr. LUKEN. Ms. Steed, can you answer for the agency? What efforts have you made?

Ms. STEED. I don't believe we have looked into how many are still out there, Mr. Chairman.

Mr. LUKEN. That suggests a degree of insensitivity.

Ms. STEED. Well, we're responsible for setting standards for new buses, Mr. Chairman. We have no authority to require those buses off the road unless they are defective.

Mr. LUKEN. You have no recall authority?

Ms. STEED. Unless they are found to be defective, we have no recall authority.

Mr. LUKEN. Do you think it's defective to have a gastank that is not secured according to, as you just described, an important requirement for safety purposes?

Ms. STEED. But that is true of all vehicles, Mr. Chairman. The new vehicles produced must meet the requirements in effect at the time that they are produced. That's true for cars also. And the fact that there are some buses out there that were produced before the cage was required——

Mr. LUKEN. But when you find that there's a certain amount of danger out there, that deathtraps exist, you have the right to recall, do you not?

Ms. STEED. If we find that they are defective in that they don't meet our standards or that we find that there is a problem out there with those buses—and, Mr. Chairman, we simply have not seen that problem develop——

Mr. LUKEN. You don't think there's any problem in these buses that have gastanks which are not enclosed in the steel cages which are now required?

Ms. STEED. There is a potential problem, Mr. Chairman, but we have not——

Mr. LUKEN. Well, that's a problem.

Ms. STEED. We have not seen any——

Mr. LUKEN. What is the difference between a potential problem and a problem? A problem is only one where the accident has happened; is that what you're saying?

Ms. STEED. Generally——

Mr. PARKER. If I may add to that, Mr. Chairman, we do have——

Mr. LUKEN. See, you're talking about incidents, and I'm asking you about figures, and you don't know how many buses there are out there. Does it make any difference whether there's a million or fifteen? Does that make any difference to you?

Mr. PARKER. For recall authority, it really doesn't matter.

Mr. LUKEN. Would you answer that?

Ms. STEED. As George says, for our recall authority and what we can do about it, it really doesn't have any bearing, Mr. Chairman.

Mr. LUKEN. Well, I think it should have a great deal of bearing.

Mr. PARKER. We can't order a——

Mr. LUKEN. I think you've admitted that that is a safety problem, and you ought to be very concerned as to how many safety problems you have out there.

Ms. STEED. We are very concerned about the number of safety problems that——

Mr. LUKEN. Not if you haven't even bothered to find out. After this has happened, 27 people killed, and you haven't even bothered to find out how many there are. I'm sure that that would be fairly easy to ascertain.

Mr. PARKER. Mr. Chairman, if I may add something, we have no authority to order a free recall of buses after——

Mr. LUKEN. So you've said that. Do you think I didn't hear that?

Mr. PARKER. I don't believe I said it before.

Mr. LUKEN. Well, Ms. Steed just said it twice.

Mr. PARKER. No. She said we could recall if there's a problem. I said, if there was a problem, we could not order a free recall. All we could order was that the manufacturer would notify the owner of that bus of a problem. But if the bus owner wanted to remedy that problem, the bus owner would have to pay for that.

Mr. LUKEN. So you're not interested in whether there are 15 or a million of them out there?

Mr. PARKER. Well, in terms of the defect authority in the program that is under me, that's based on a history of problems with those vehicles in use. That type of severe accident, which has happened only once——

Mr. LUKEN. It's based on——

Mr. PARKER. That's right. That has happened only one time that we know of. We could never sustain in court a recall order based on one incident in all the millions of miles that these vehicles are driven.

Mr. LUKEN. You're saying that if you attempted a recall, you would be frustrated because you can't show an incidence of accidents?

Mr. PARKER. That's correct.

Mr. LUKEN. No difference at all? You wouldn't offer that in evidence?

Mr. PARKER. No. It would depend on the incidence of that type of event. But with all the years of those buses in use and the miles that they've been driven and one incident——

Mr. LUKEN. And how many there are? You know how many years there are, and you know how many miles they've been driven, but you don't know how many buses there are?

Mr. PARKER. It's really not important for the defect program.

Mr. LUKEN. How do you know how many miles they've driven, if you don't know how many there are? What are the records on how many miles they've driven?

Mr. PARKER. I don't know who has that.

Ms. STEED. About 3.3 billion miles, Mr. Chairman, per year are driven by schoolbuses.

Mr. LUKEN. No, no. The question is, the pre-1977 buses.

Ms. STEED. Since we don't know how many are out there, I cannot tell you how many miles they have been driven. But each year, schoolbuses are driven 3.3 billion miles.

My colleague to my left tells me that he has seen estimates that about three-quarters of the 350,000 schoolbuses that are out there are poststandard.

Mr. LUKEN. Now what about flammability? Getting back to the flammability issue—well, it appears we only have about 5 minutes to make this vote, and I am again apologetic, but I think this will be the last interruption, and I must ask you, if you will, to remain. I have a couple of more questions to ask, and then we will complete the hearing.

So we will recess for 10 minutes.

[Brief recess.]

Mr. LUKEN. All right, we will reconvene.

Ms. Steed and members of your panel, in responding to earlier questions, I believe you referred to a 1980 NHTSA report; is that right?

Ms. STEED. 1977, if you're talking about the report to the Congress. I also talked about a 1980 consultant's report to the agency.

Mr. LUKEN. Which consultant is that? That's the January 1980 final report, "Identification of Superior Energy-Absorbing Materials for Schoolbus Interiors," right?

Ms. STEED. Yes, sir.

Mr. LUKEN. Now I'm looking at that report, and I just want to make sure I understand this. The consultant went through the various potential materials and eliminated, through the process of elimination, and eliminated polyurethane from the list of potentials because of its flammability; isn't that right?

Ms. STEED. It was one of the materials that was considered, I understand, Mr. Chairman. It was not one of the materials that came out to be the best in their tests.

Mr. LUKEN. Because of flammability.

Ms. STEED. Yes, sir.

Mr. LUKEN. And the ones that—of the ones that were left, neoprene, low-smoke neoprene, was considered to be a prime candidate; isn't that right?

Ms. STEED. I believe that's correct for flammability purposes.

Mr. LUKEN. And it also passed the crash test, did it not?

Ms. STEED. It did not do well in both areas of crash protection. We do one that's a force distribution test that basically protects the face and the head, and then we do a test that measures energy absorption. Those tests apply to the material on the back of the seat in front of you. And it did not do well from an energy-absorbing standpoint.

Mr. LUKEN. Well, according to this report that I'm reading here, seven conclusions from a cost and weight effectiveness standpoint, one padding covering two core materials stand out as being superior to other materials tested. And LS neoprene and paper honeycomb are those listed.

They stand out as being superior. Weight effectiveness, what does that mean?

Mr. HITCHCOCK. Weight effectiveness would be the amount of material that you'd have to put in to do the job of providing enough protection.

Mr. LUKEN. For padding.

Mr. HITCHCOCK. How much padding you'd have to put in, right.

Mr. LUKEN. So you're disagreeing with the gentleman who testified before that neoprene is a good padding?

Ms. STEED. It's good padding, Mr. Chairman. It isn't sufficient to meet our crash requirements on schoolbuses.

Mr. LUKEN. What is?

Mr. HITCHCOCK. Well, right now, it's polyurethane that's used to meet the crash protection requirements standard. That's the typical padding that's in schoolbuses.

Mr. LUKEN. So if you were going to write the specifications today, you'd use polyurethane?

Mr. HITCHCOCK. No, I wouldn't say that's what I'd use today. At the time we issued the standard and in 1980 when we reconsidered the standard——

Mr. LUKEN. No. We're talking about today. Today you wouldn't use polyurethane, would you?

Mr. HITCHCOCK. I don't know the answer to that. That's what we're looking into.

Mr. LUKEN. At this stage in the game, you're beginning to look into it? Polyurethane has been around since the Year One. I had a Beverly Hills fire in Cincinnati that killed 169 people about 10 years ago, and all the testimony I heard was that the reason they were killed was polyurethane from the floor to the ceiling. That's 10 years ago. That was in headlines.

And we've heard testimony here today that polyurethane is too combustible. Polyurethane is the stuff that goes up like this and provides the noxious smoke that fills the cabin right away or fills the car right away, and it cuts off visibility and is toxic.

Isn't that all right? Isn't that correct?

Mr. PARKER. Mr. Chairman, I would like to mention some testing that the compliance side of the agency did back in 1973. We tested a bus constructed similarly to the bus that was in this fire, and we

tested the seat materials for compliance with 302, the flammability standard, and in that bus which had a polyurethane foam, we could not get the foam to ignite.

The test doesn't include a fuel-fed fire, a gasoline fire, but for the test requirements that are in the standard and under the test conditions in the standard, we could not get the polyurethane foam to light.

Mr. LUKEN. Are you writing specifications based on that test?

Mr. PARKER. That is a compliance test. It's based on the test procedure that's in the standard, and——

Mr. LUKEN. So on that test, you are refuting all of the evidence that polyurethane shouldn't be used because of its flammability; is that what you're saying?

Mr. PARKER. No. I'm saying that the manufacturer shows that polyurethane was used as the cushion material in the seats, and when we tested it for compliance to the standard, it passed. Not only did it pass, but we were not able to ignite the polyurethane.

Mr. LUKEN. Well, that's the reason, then, that you haven't revised your standards and why you're not going to revise your standards, because you took a test; is that right?

Mr. PARKER. We did a test for compliance.

Mr. LUKEN. One test. One single test on one particular padding in one bus, and that's the reason that you haven't changed your standard, such as Washington Metro has, such as the New York Subway, such as the transit system has, and changed it from polyurethane to neoprene?

Mr. PARKER. Well, it was not a research test. We did more than one test. We tested essentially all schoolbuses manufactured. We also tested all passenger cars.

Mr. LUKEN. Well, what kind of a fire was that?

Mr. PARKER. That was for the fire that's in the standard, the test that's in the standard, which is a gas fire, not gasoline, but a gas-fed fire. It's a Bunsen burner type of fire.

Mr. LUKEN. But that's not gasoline.

Mr. PARKER. That is not gasoline; that's correct. I started by making——

Mr. LUKEN. Is this a red herring that you've just brought in?

Mr. PARKER. No, it's not a red herring. It's just saying that the manufacturer chose that material for compliance with the standard, and it did comply with our standard.

Mr. LUKEN. For some reason, you've interjected in this discussion that we were having with this. Now I want to get the point.

Mr. PARKER. Yes, sir.

Mr. LUKEN. You're saying because at one time with a single test with a Bunsen burner fire, a different kind of a situation, that's the reason why you won't adopt modern tested, accepted standards for flammability and quit using polyurethane; that's what you're saying.

Mr. PARKER. That's not my decision, since I run the enforcement side of the agency. I'm saying that——

Mr. LUKEN. Oh, now we're compartmentalizing again. But you interjected here.

Mr. PARKER. Well, that's right, because you made the statement that the polyurethane foam is immediately combustible and burns quickly, and I'm saying when the manufacturer——

Mr. LUKEN. You're disputing that?

Mr. PARKER. I'm saying when the manufacturer chose that——

Mr. LUKEN. Are you disputing that? Are you disputing that? You just said what I said. Are you disputing it?

Mr. PARKER. In some cases, that's right.

Mr. LUKEN. And you mean in that one case with a Bunsen burner?

Mr. PARKER. And one case with the foam chosen by the manufacturer and possibly treated.

Mr. LUKEN. Do you know of any other cases besides that one?

Mr. PARKER. We ran other compliance tests with similar results.

Mr. LUKEN. Other compliance tests on other——

Mr. PARKER. On other schoolbuses; that's correct.

Mr. LUKEN. Other schoolbuses?

Mr. PARKER. Yes.

Mr. LUKEN. And you couldn't get them to burn?

Mr. PARKER. I can't tell you for those. I can supply that for the record. I just have the results for the bus that's——

Mr. LUKEN. Well, sir, when I said, did you have any other examples, I meant some other examples of something analogous. Didn't you think that's what I meant?

Mr. PARKER. I have other tests of schoolbuses.

Mr. LUKEN. We were talking about other tests of the same character with the same result with the same materials.

Mr. PARKER. We have the same test. I can't tell you if the results are the same, although I can tell you——

Mr. LUKEN. Well, then, you shouldn't have brought it up. We're not talking about, somewhere did they conduct tests? We're talking about same or similar materials, the same results, the same fire. You don't have any of those, do you?

Mr. PARKER. Same fire , similar materials, same test, but I can't tell you what the results are, because I don't have them with me.

Mr. LUKEN. So then we shouldn't consider it, should we?

Mr. PARKER. Well, I can supply them for the record.

Mr. LUKEN. But we shouldn't consider it right now.

Mr. PARKER. Not for this discussion, since I don't have the results.

Mr. LUKEN. But they're all with a Bunsen burner, you know that? Not gasoline fire.

Mr. PARKER. That's the test—not gasoline fire; that's correct.

Mr. LUKEN. Uh-huh. Before, I don't know whether we got the complete answer as you have it, or maybe you have a better answer now or more complete answer. Do you have any estimate as to how many of these pre-1977 schoolbuses that have not the cage or the secured gastank, how many there are on the road?

Ms. STEED. It is just an estimate, Mr. Chairman, and it's one that my colleague showed me. He said that he has seen estimates that about three-quarters of the 350,000 schoolbuses are poststandard buses. So that would mean one-fourth of 350,000 are not poststandard and might not have the protective cage, which is what I think you were asking about.

Mr. LUKEN. So we might be talking about close to 100,000 schoolbuses that might be out there.

Ms. STEED. That could be.

Mr. LUKEN. That are pre-1977. And in April 1977, NHTSA issued these crash cages. Can anybody tell us why NHTSA issued this requirement for crash cages? Was it just a frivolous reason, or is there some serious safety measure that was involved? What's the cause?

Ms. STEED. We issued several upgraded standards, Mr. Chairman, in response to the congressional interest in upgrading schoolbuses safety standards.

Mr. LUKEN. You mean, we told you they needed cages?

Ms. STEED. You told us that we needed to look at about six different things involving buses, and fuel system integrity was one of those items that you wanted us to look at.

Mr. LUKEN. So when you looked at that, you found that these cages were necessary for safety; is that right? Can you give us any more details as to why you required them?

Mr. HITCHCOCK. I think we'd have to look——

Mr. LUKEN. You didn't make it optional, did you?

Mr. HITCHCOCK. No.

Mr. LUKEN. You required it.

Mr. HITCHCOCK. All new schoolbuses manufactured after the effective date of the standard did have to comply with the new standard.

Mr. LUKEN. Can you tell us why? What was the safety feature? You said—I believe you said you found that there weren't any accidents involved in it. Why did you require it?

Mr. HITCHCOCK. I think at that point in time there was some evidence of some potential flammability problems in fuel tanks, and again the Congressional Schoolbus Safety Amendments of 1974 directed us to set upgraded standards in the area of fuel systems, and so we, through our rulemaking process, we arrived at that as being a good measure of upgrading the standard.

Mr. LUKEN. Does that mean that it's more safe? Does upgrading mean you made the vehicle more safe?

Mr. HITCHCOCK. That's correct.

Mr. LUKEN. Is that right?

Mr. HITCHCOCK. That's correct.

Mr. LUKEN. Oh. Can you give us any idea of what degree of safety that might be?

Mr. HITCHCOCK. Well, again, I think until this particular crash, we had not had a fuel system rupture, I think, on a schoolbus, and this particular one that ruptured did not meet our new standard. So I think again, I realize you can't use accident data always to guide you, but I don't think we've had any cases where a fuel tank system has been ruptured in a crash with the new standards in place.

Mr. LUKEN. I understand that in many European countries a plastic gastank is required, that that's the standard; is that right?

Mr. HITCHCOCK. I think plastic fuel tanks are used in some European vehicles in passenger cars and all. I'm not sure what the situation is in heavy trucks and buses in other countries. There are plastic fuel tanks used in this country in passenger cars as well,

but not generally but not as far as I know in heavy trucks and buses.

Mr. LUKEN. Have you made any tests of that, any studies of that, as to whether plastic gastanks would not be safer?

Mr. HITCHCOCK. Plastic tanks have some advantages and some disadvantages, and we had studied that in 1978, and again there were some plastic fuel tank vehicles on the road, and most vehicles, of course, had metal tanks. But we did compare the accident statistics of the plastic fuel tank vehicles with the metal fuel tank vehicles and were not able to find any statistically significant difference in the rates of fires in those two kinds of tank construction, so we concluded at that time that there was no statistical preference for one or the other.

Mr. LUKEN. Did you make the studies?

Mr. HITCHCOCK. The National Highway Traffic Safety Administration made the studies; that's correct.

Mr. LUKEN. Did you have a consultant make the study?

Mr. HITCHCOCK. Not on this particular plastic fuel tank issue. It was an employee of the National Highway Traffic Administration.

Mr. LUKEN. An employee who did what?

Mr. HITCHCOCK. Made a statistical analysis of the accidents that had occurred, real-world crashes that had occurred, in our crash files and compared vehicles with plastic fuel tanks and vehicles with metal fuel tanks, comparable vehicles.

Mr. LUKEN. And you concluded that plastic fuel tanks do not present a safety problem?

Mr. HITCHCOCK. That's correct, because at the time there was some thought that plastic fuel tanks were not as good as metal tanks. Then again, some people hold——

Mr. LUKEN. But do you know whether they're better?

Mr. HITCHCOCK. In some situations, they appear to be better, and in some situations, they could be worse. We have——

Mr. LUKEN. Are you in a position to make a recommendation?

Mr. HITCHCOCK. Not today, but we do have a petition to require vehicles to have plastic fuel tanks, and as a part of evaluating that petition, we are going to again make a study of the accident data to see if there's any evidence that one or the other——

Mr. LUKEN. When did you get that petition?

Mr. HITCHCOCK. It's been within the last year, but I don't know exactly when.

Mr. LUKEN. And when was this study made in 1981, the study that they are really safe? Can you give me an idea how widely they're used in Europe? I've heard that they're pretty widely used.

Ms. STEED. We can't today, Mr. Chairman, but we'd be happy to look into it for the record. We know that approximately 2 percent of the vehicles, passenger cars in this country, use a plastic tank.

[The following information was supplied:]

PLASTIC FUEL TANKS

The most recent information we have concerning the prevalence of plastic fuel tanks in European passenger cars is contained in a 1982 Society of Automotive technical paper prepared by Volkswagen ("Status Report of HDPE Fuel Tanks in European Automobiles: Characteristics of Service life on Performance," Klaus-Dieter Johnke and Peter Behr, Volkswagenverk AG, SAE technical report 820800, June 1982.) The paper dealt with the service life of high density polyethylene [HDPE]

tanks and reported that such tanks had been in large-scale production for 9 years. It estimated that 1 million vehicles with plastic tanks were being produced each year and stated that the manufacturers installing the tanks included Alfa Romeo, Citroen, Talbot, Daimler Benz, Porsche, Renault, and SAAB, as well as Volkswagen.

On August 30, 1988, the agency granted a rulemaking petition submitted by Mr. Thomas J. Feaheny on the subject of fuel tanks. The petition seeks to subject fuel tanks to tests that will ensure performance equivalent to that of HDPE tanks. As part of the rulemaking process, we intend to gather further information on the European experience with the safety and durability of these tanks.

Mr. LUKEN. It may be it might be a big improvement from a safety standpoint. They don't blow up, do they? They don't explode.

Mr. HITCHCOCK. Well, they don't explode, but they do release the fuel that's in them, and that can cause problems in certain scenarios. In fact, in our previous look at the tanks, the National Fire Protection Association gave us some data and ran some tests. They were concerned that, for example, in the parking garage of a building, that if you started a fire with a plastic fuel tank vehicle, the fuel would be released on the ground, start other vehicle fuel tanks with plastic fuel tanks on fire, and end up burning the building down. So that was a part of the concern.

Metal fuel tanks normally don't explode; they vent their fuel, and it burns off. It usually does not explode. So if the tank—if there's a fire engulfing the tank, the metal fuel tank is preferable to the plastic fuel tank.

In a crash situation, though, there is some indication that it's less likely that a plastic fuel tank may rupture under certain conditions than a metal fuel tank. So there are some tradeoffs.

Mr. LUKEN. Now 10 years ago in March 1978, NTSB recommended to NHTSA that schoolbuses be provided with additional emergency exits. Are you familiar with that, anybody?

Ms. STEED. Not specifically, no.

Mr. LUKEN. Well, the information that we had from a telephone call to NTSB was, such a recommendation was made, and NHTSA told NTSB that popout windshields on schoolbuses provide an adequate additional emergency exit.

Can any of you comment on those? I can't press you on it, because I don't have all of the details on it. I have the report before me. But when can you tell us about the question of emergency exits and popout windshields and the suggestion that has been made here today that it would be relatively easy to install popout side windows?

Mr. HITCHCOCK. Yes. Unfortunately, I think there are some tradeoffs involved here, and we're certainly reassessing our tradeoffs as a result of this recent crash. But if you put in additional windows that can be popped out, there is an increased risk of ejection if the next schoolbus crash happens to be a schoolbus rolling down a mountain or something. Those windows are going to pop open more easily, and there is the possibility that students can be ejected in that kind of a situation.

So I think we'd have to look at it again, and we are looking at it again, but there are some tradeoffs involved.

Mr. LUKEN. I wonder if you could provide us with more information on that subject and what investigations you are undertaking with reference to the question of requiring additional exits and the flammability issue?

We seem to have some real differences of opinion here. We had the testimony—it seemed rather clear testimony—of the Washington Metro people saying that the transit standards generally on flammability are one way, and you seem to be questioning whether that will apply to schoolbuses. So perhaps we can get more information from you on that.

Ms. STEED. We'd be pleased to do that.

[The following information was supplied:]

ADDITIONAL INFORMATION ON SCHOOLBUSES

On the subject of door exits, windows, and the problem of ejection, the more comprehensive source of information is still the agency's "Schoolbus Vehicle Safety Report," which it submitted to Congress in 1977. In preparing the report, the agency performed a detailed analysis of the causes of injury to schoolbus occupants. It found that more than 70 percent of the injuries were caused by the seat backs, a finding which reinforced the importance of the energy-absorbing seat backs required by the new standard on schoolbus seating (FMVSS No. 222, Schoolbus Passenger Seating—Crash Protection).

In the most severe crashes, including those in which passengers were fatally injured, the 1977 report found that ejection was a major problem. In 10 severe crashes that were reviewed in depth, the report found that 96 persons had been partially or completely ejected, some through the windshield or side windows and others through the doors or through separations in the roof or body panels. Of the persons ejected in these crashes, 23 were fatally injured, half of them by being thrust through a separation in the body structure. This data supported the need for the schoolbus standards relating to bus windows, body joint strength, and rollover protection.

As stated in our testimony, we have no records of any fire-related deaths in schoolbuses prior to the crash in Carrollton, KY. Our compliance tests have indicated that the schoolbus manufacturers are complying with the standard on the flammability of interior materials, FMVSS No. 302, and no prior crashes have disclosed a problem with the materials. As a consequence of the Carrollton crash, however, we have issued advance notices of proposed rulemaking on the flammability of interior materials in schoolbuses (53 FR 44627; November 4, 1988) and on the requirements for emergency exits (53 FR 44623; November 4, 1988). We are also examining the need for a notice on fuel system integrity, in view of the rupture of the tank on the Carrollton bus.

In the 11 years since the schoolbus safety standards became effective, enough data has accumulated to evaluate the overall performance of buses meeting the standards and to assess the need for other safety measures. A 1987 report by the National Transportation Safety Board on a sample of crashes involving post-1977 buses indicated that the new standards had significantly improved the safety of schoolbuses, particularly through the ability of the new seats to "compartmentalize" occupants during a crash. (These seats are unique to schoolbuses; transit buses are not required to provide energy absorbing seat backs and are equipped only with cushions for the comfort of the occupants.) A study by the National Academy of Sciences is expected to provide an even more intensive review of the subject of schoolbus safety, with its final report scheduled for March 1989. By separate correspondence, we have given the committee a comprehensive summary of other schoolbus safety activities now in progress.

Mr. LUKEN. Well, it's been a rather wearing time, especially because of the interruptions.

One final question. I think we've asked this in general. Can you give us a date as to when you plan, Ms. Steed, to start a rulemaking on flammability standards?

Ms. STEED. We will finish our review of the standards—in particular, the flammability standard, the exit standards, fuel tank integrity—September, next month. And based on that review, if we see a need for new rulemaking, we could have a Notice of Proposed Rulemaking out before the end of the year.

Mr. LUKEN. So if we hold the record open for 60 days, you can supply us with that review and your decision?

Ms. STEED. I can supply you with——

Mr. LUKEN. Or some reason why you can't supply it, and then we might extend it further.

Ms. STEED. Certainly. At that point, we will have finished the review.

[The following information was supplied:]

AGENCY REVIEW AND RULEMAKING

In response to the chairman's request, the National Highway Traffic Safety Administration prepared an updated review of its schoolbus safety activities. On November 1, 1988, the agency sent the subcommittee the resulting report, entitled "Schoolbus Vehicle Safety Report." In further response to the chairman's question, the agency published two advance notices of proposed rulemaking on schoolbus safety: one on the flammability of interior materials (53 FR 44627; November 4, 1988), and the other on emergency exits (53 FR 44623; November 4, 1988).

Mr. LUKEN. Well, anything further? Anything further from counsel?

[No response.]

Mr. LUKEN. Well, we thank you very much. You've been very forthcoming and very obliging and patient with us, and if there is nothing further, the hearing will be adjourned.

[Whereupon, at 12:55 p.m., the subcommittee adjourned.]